INDUSTRIAL EQUIPMENT NEWS

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VOL. 15 • NO. 8

The Original IEN

INDUSTRY'S MOST COMPLETE PRODUCT INFORMATION SERVICE

What's New IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

Product Information for specifiers and buyers in all industries

IEN - 7169

HEATING . . Radiant glass panel operates electrically to 650 deg. F.

Source: CORNING GLASS WORKS
1950 Crystal Ave., Corning, N. Y.

Company invites special problems in heating, drying

Pyrex Brand No. 7740 heat-resistant glass is coated on one side with a fired on transparent electrically conductive film to provide a low watts for radiant heat. With the addition of a metal reflector in back of the film the panel will radiate 90 per cent of the electrical input energy through the coated face. Application is as a variable resistor, power controller and for close connection and constant energy or to multiple for space heating, process drying, and radiant heat computing.

Two stock sizes measure 12 by 12 by 1/32 in. and 10 by 24 by 1/32 in. over the coated glass panel. Mounting frames measure 13⅝ by 13⅝ by 1½ in. and 17⅝ by 25⅝ by 1½ inches. The smaller unit is available in 500 to 1,500 watt ratings on 110-volt power and 1,000 watts on 220 volts. Element temperature in free air is 410 to 644 deg. F. The larger panel is made in 1,000 and 1,500 watt ratings on 110 volt input and 1,000 to 3,000 watts on 220 volts. Its temperature in free air is 206 to 340 deg. F. List prices for the panels range from $5 to $8.70. The frame adds $5.20 to $12.40.

Bulletin B-86, 8 pages, "Pyrex E-C Radiant Glass Panels", includes illustrated descriptions with typical applications, information on engineering properties and available frames. List price sheet is covered.

IEN - 7170

TESTING . . Liquid dye and developer reveal surface flaws in metal parts

Source: DY-CHEK CO.
1513-17 E. Broadway, Hawthorne, Calif.

Dy-Chek trade name for assembly of a red penetrant and developer and a cleaning and dye removing liquid for ferrous, nonferrous, plastic and nonmetallic surfaces. Parts such as castings and forgings, welds and machined parts are immersed in the penetrant and then cleaned. After the developer is applied, the surface is examined for defects.

If there are any flaws [illegible]

A four-jar kit [illegible]

IEN - 7171

PURCHASING GUIDE . . Available free to Industrial Equipment News readers

Source: THOMAS PUBLISHING CO.
467 Eighth Ave., New York 1, N. Y.

Limited quantity first come first served

We suggest [illegible]

The book [illegible]

IEN - 7172

DRIVE . . Magnetic clutch uses mix of iron and graphite particles

Source: VICKERS ELECTRIC DIV.
1813-17 Locust St., St. Louis 3, Mo.

Magneclutch trade name for clutch in which current can be fed to an electric coil through brushes to a tube A to a coil E mounted in a driving member B which forms one side of a magnetic circuit. The magnetic circuit is completed through a mixture of iron and graphite particles carried in the working gap D between the driven ring G and the end closed by housing C. The motor or other unit, bearings H are the means by which the drive shaft is mounted and on which the driving member is mounted. On the other side is a flexible coupling H carried and driven on the bearing HG which F of the bearings supports. The clutch assembly [illegible]

Closing the electric circuit [illegible] the magnetic particles and set up driving action between the two sides. Opening the circuit releases the magnet action and the drive is released. Variation of this action are supplied with generated voltage to form designs that include slip motion as in speed regulating, brake shaft or torque arrester, a wheel drive, or as slip torque limiting device or a non-disengaged drive of one, and switching a load in a range between ¼ and 5 hp. Clutch designs are available to about 25 hp and to 1,000 rpm. Larger units to 187 hp. in shaft service are planned. Also available is a Magneclutch for services up to about 2 hp. It operates on a non-contact system by the clutch unit.

As an example of performance, the 27 hp. unit operating at 1,200 rpm. in shaft service gives 100 lb. ft. of torque at 90 watts in 150 ms. The arrangement for slip service gives 2 hp. in non-slip. It requires 250 watts in slip service gives 22 lb. ft. of torque at 10 watts in the coil. Weight of this clutch is 40 pounds.

Application Data Sheet, [illegible] is for use [illegible] to make recommendations and to show the clutch for any given service. The company is prepared to provide the engineering assistance on request.

IEN - 7173

ROCK DRILLING . . Jet type torch to pierce blast holes in hard rock

Source: LINDE AIR PRODUCTS CO.
30 E. 42nd St., Room 308, New York 17, N. Y.

At Corning [illegible]

Oxygen fuel and water [illegible]

WHAT DO YOU NEED?

READER SERVICE FORM . . Look between pages 16 and 17 or 80 and 81 and "lift" the form you find there. Keep it beside you as you look through the pages. Note on it the numbers of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

•

From a Development Engineer

"IEN has been most helpful to us in that we in spite of it put work including plant design, road building, [illegible] and storage office and equipment [illegible] mechanical, electrical, plumbing and heating equipment and the associated fittings and accessories, [illegible] in fact almost every conceivable engineering requirement of equipment."

•

Departments

READER SERVICE FORM	Pages 16-17 or 80-81
SUBJECT INDEX	Page 94
PRICES FOR ESTIMATING	Page 4
NEW LITERATURE	Page 25
NEWS NOTES	Page 81
"I WISH I HAD"	Page 96

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Our selections in this issue

CONTAINER	Page 71
DRILLING	Page 21
DRIVE	Page 70
EQUIPMENT	Page 83
ILLUSTRATIONS	Page 40
MILLING	Page 92
MIXING	Page 24
PRESSES	Page 93
SIGNALING	Page 27
STEEL	Page 65
TESTING	Page 3
VALVE	Page 33

W. E. Smith — V. Pres. & Editor
F. Max Smith — V. Pres. in Charge

THOMAS PUBLISHING COMPANY
461 - 8th Ave., New York 1, N.Y.—LOngacre 3-1546

FILL IN AND SEND ALONG TO OTHERS INTERESTED IN PRODUCT INFORMATION

Plant Operating Mr.
Production Mr.
Engineering Mr.
Product Design Mr.
Purchasing Mr.

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Self-sealed
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Conveyor Bearings

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BALL BEARINGS

NEW DEPARTURE • Division of General Motors • Bristol, Connecticut

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SHOWS HOW TO STOP CONDENSATION DRIP

NoDrip

Stops Drip from:
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- ✓ Water filter tanks
- ✓ Metal or concrete ceilings
- ✓ Basement walls
- ✓ Condensers
- ✓ Air Ducts
- ✓ Blower pipes
- ✓ Dust Collectors
- ✓ Crystallizers

Learn how you can control condensation drip from pipes, tanks, ceilings—from metal, wood or masonry surfaces.

LOW COST — EASY TO APPLY

Anyone can apply NoDrip, the triple-duty insulation-type coating. Brush it on or spray it on. Use it on pipes or equipment where temperature differences cause condensation. Save money by preventing rust and corrosion. Deaden sound, decrease vibration on metal ducts or pipes.

HANDBOOK SHOWS HOW

Send today for your copy of the NoDrip HANDBOOK which tells what this plastic cork material can do for you. It's the modern solution to condensation drip problems.

Send for your Free Handbook Now!

J. W. MORTELL CO.
Technical Coatings Since 1891
Dept. IE, Kankakee, Ill.

BREVITY—Identify by IEN - 7176 if you write the maker

RIGIDIZED METALS®
Give Greater Sales Stamina

Rigidized design strengthened and Textured Metals put new eye-appeal in any product because they're different. They're economical, too, because they add strength without adding weight—or reduce weight without reducing strength. Many attractive designs—in stainless steel, aluminum and other ferrous and non-ferrous metals—in sheet or strip—solid or perforated. Investigate—Write for Details Today.

SEND OUR CATALOG ON SWEET'S FILE

Rigidized Metals Corporation
444 Ohio St. Buffalo, N. Y.
Sales Offices in Principal Cities

BREVITY—Identify by IEN - 7177 if you write the maker

TESTING . . Portable magnetic unit finds defects in equipment in a plant

Source: MAGNAFLUX CORP.
5914 Northwest Highway, Chicago 31, Ill.

Cracks that may have started in crane booms, crankshafts, critical tools, chain links, machine housings, gearing, are exposed, usually without teardown, by application of this new KH-66 Magnaflux testing equipment. It can be wheeled through a plant and applied in predetermined locations at regular intervals to catch starting trouble before it becomes serious. It can be used in the maintenance department on work brought in for general repair. It is suited for production use on spot testing and in small plants where the company's regular production equipment is not warranted.

List price is $185 in complete assembly on ball-bearing semi-pneumatic tired wheels with the required extension cord and plug to connect to a 110-volt ac. power source and with 30 ft. of magnetizing cable. Output connections in the side of the housing take the cable for ac. or pulsating dc. as required in a given application. Control is at a switch on the housing. A meter reads amount of magnetizing current. An accessory compartment contains powder and materials to provide the indication of defect after the magnetizing has been done.

Accessory equipment, available to specification, includes a prod kit to magnetize complex castings, welds by passing current through them. Also available is the company's Magnaglo Fluorescent powder which responds as a brilliant green line over any hidden crack on application of a portable "black" light. It is particularly suited for inspection in threads and key ways. A Magnaglo kit can be supplied with the powder and the light. The company also supplies the services of an expert to give a day of instruction to the designated operator.

BREVITY—Identify by IEN - 7178 if you write the maker

INSULATING . . Neoprene mat cushions glassware in sinks, on tables

Source: SCIENTIFIC GLASS APPARATUS CO.
52 Ackerman St., Bloomfield, N. J.

Neodex trade name, new dark green neoprene mat built upon an expanded fiber core to provide a flexible shock absorbing material to cover hard surfaces where glassware is to be set down. The mat is available in rolls measuring 27 in. in width by 50 ft. in length. It is sold also by the yard. It can be cut to desired shapes with ordinary scissors.

The open mesh assists in draining to promote drying of wet glassware placed on it. It is soft and pliable, light in weight, and is not subject to attack by gasoline, oils, acids, alkalis commonly encountered in laboratory service.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 7179 if you write the maker

Keep heavy reels from tipping or wobbling with

DUFF-NORTON CABLE REEL JACKS

These weather-proof, non-rocking jacks provide rapid, easy lifting and lowering . . . and positive holding of heavy cable reels. They're dependable under most adverse field conditions.

Write for Catalog 203-G

THE DUFF-NORTON MANUFACTURING CO.
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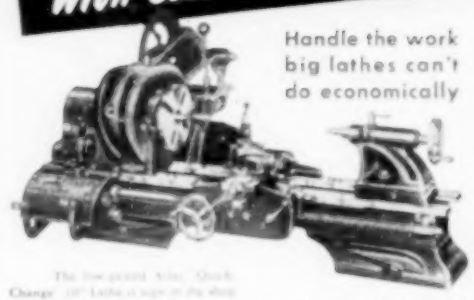
"The House that Jacks Built"

BREVITY—Identify by IEN - 7180 if you write the maker

Cut Production Costs on small Precision Parts with Atlas 10" Lathes

Handle the work big lathes can't do economically



The low-priced Atlas "Quick-Change" 10" Lathe is tops in the shop—for precision work and accuracy. With 10" swing (6¾" over carriage), 24" and 40" bed-ways (optional), and 12 spindle speeds from 28 to 2000 RPM, it has the capacity for most small parts operations—and it's much cheaper to run than bigger lathes.

Instant selection of 34 threads and feeds saves set-up time, speeds production runs. And with its heavy, massive construction, precision-ground ways, and Timken Tapered Roller Bearings, the Atlas is an accurate, smooth-operating lathe that is ideal for both round-the-clock production and tool room jobs.

Atlas standard 10" lathes start at $312.00 F.O.B. Kalamazoo — "Quick-Change" at $372.00. Send for latest catalog with complete facts.

ATLAS PRESS CO.
ATLAS PRESS TOOLS
MATCHED PRECISION TOOLS FOR WOODWORKING AND METALWORKING

BREVITY—Identify by IEN - 7181 if you write the maker

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for blazes in flammable liquids

Kidde Dry Chemical Extinguisher gives trigger-finger control, more effective discharge pattern, easy recharging in the field and dry chemical powder that stops fire fast. Write for free literature.

MORE EFFECTIVE DISCHARGE PATTERN

Kidde

Walter Kidde & Company, Inc. • 336 Main St., Belleville 9, N. J.

BREVITY—Identify by IEN - 7182 if you write the maker

HOW TO TAME STAINLESS STEELS

When it comes to joining stainless steels, EASY-FLO makes them sit up and purr like kittens. For example, the air tube shown is made of 4 different types of stainless. Outer tube is type # 302—small drain bushings are # 303—inside bracket is # 316—large bushing inside the flange is # 416. The low-temperature silver alloy EASY-FLO readily joins them—and does it fast and economically.

GET DETAILS IN THIS ARTICLE

It tells how to join stainless steels with EASY-FLO and gives technical findings of our Research Laboratory on the subject. Write for "the stainless steel reprint" today.

HANDY & HARMAN 82 Fulton St., New York 7, N. Y.

▼ BREVITY—Identify by IEN - 7183 if you write the maker ▼

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strong wire
tough wire
corrosion-resisting wire
oxidation-resisting wire
fatigue-resisting wire

Whenever you need wire with extra resistance to stress, rust, corrosion, oxidation, heat and fatigue ... turn to Monel®, Nickel or Inconel®. These metals are available in all the markets, ready to help you do a better job, a safer job, a longer-lasting job and frequently even a cheaper job.

Send for new folder, "If Wire Has You Snarled." It gives information on the mechanical and corrosion-resisting properties of Monel, Nickel and Inconel wire. Also includes a handy sample coil of Monel wire.

THE INTERNATIONAL NICKEL COMPANY, INC.
73 Wall Street, New York 5, N. Y.

Monel Nickel Inconel

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Greater capacity in existing conduit with DENSHEATH small diameter wire

DENSHEATH*
(Type TW) Thermoplastic covering

will not support combustion. Resists acids, oil, alkalies, moisture. Easy to pull, resists abrasion. Code approved for 600 V., 167°F.

Write for Building Wire Catalog C-61
Anaconda Wire & Cable Company,
25 Broadway, New York 4, N. Y.

the right wire for the job ANACONDA WIRE AND CABLE

*Reg. U. S. Pat. Off.

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Browning FLEXIBLE COUPLINGS

WITH
•SPLIT TAPER COMPRESSION BUSHINGS

(1) Bushed type—eliminates expensive reboring—wide bore selection
(2) Completely machined from solid steel or malleable castings
(3) Compact maximum strength
(4) Neoprene insert added strength, resiliency, shock absorbing, oilproof, greaseproof, heat resistant
(5) Easy to mount, easy to remove, positive locking clamp fit ... sizes to 40 H.P. range—available from stock

Nationwide service—write for the name of the BROWNING Distributor near you.

BROWNING MANUFACTURING COMPANY
INCORPORATED
1950 BROWNING DRIVE MAYSVILLE, KENTUCKY

▼ BREVITY—Identify by IEN - 7186 if you write the maker ▼

WHEELS . . Made of powdered metal, initially for use in casters, to 3 in.

Source: BASSICK CO.
36-40 Austin St., Bridgeport 2, Conn.

Five sizes between 1½ and 2½ in. have been announced and a 3-in. unit is now going into production in the company's new line of powdered-metal caster wheels. The wheels are molded from iron powder under high pressure, then are sintered and finally impregnated with oil for life-time lubrication. Types include plain iron and iron with brass plating for appearance.

Rigid control of the materials and the process results in wheels with microscopic pores that will adsorb and hold lubricant without it being apparent on the surface or able to move out of the wheel structure by contact only. The oil does lubricate a wearing surface however, such as the bearing axle, when friction develops between the wheel and the axle.

▼ BREVITY—Identify by IEN - 7187 if you write the maker ▼

CASTINGS . . Made of alloy steel, heat resistant, cast to specification

Source: LEBANON STEEL FOUNDRY
1st Ave. & Lemon St., Lebanon, Pa.

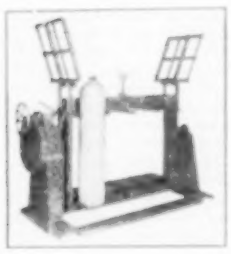
Company invites specific inquiry

Licensing agreement has been made between the company and Timken Roller Bearing Company to make castings from the latter's patented alloy No. 16-250. The alloy is adaptable to casting in sand or in centrifugal molds. It has high creep resistance and rupture strength at temperatures to 1,500 deg. F. Resistance to corrosion and oxidation are also good at the same temperature. Castings are to specification.

▼ BREVITY—Identify by IEN - 7188 if you write the maker ▼

CLEANING . . Steamer and drainer holds and inverts eight gas cylinders

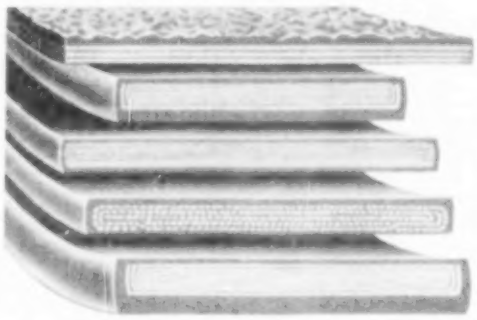
Source: VOL-U-METER CO.
P. O. Box 56-A, Buffalo 16, N. Y.



New machine mounts over a suitable drain pit, clamps eight compressed gas cylinders in place on the trunnion cradle. Steam is directed into the top openings from a suitable shop source to clean the interiors. Then the cradle is rotated by handcrank and gearing at one end to invert the openings over the pit. The company is prepared to supply the machine in dimensions suited for given numbers and sizes of cylinder to be cleaned.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 7189 if you write the maker ▼



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LUBRIPLATE LUBRICANTS Cuts Parts Replacements 50%

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Newark 5, N. J. Toledo 5, Ohio

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DEALERS EVERYWHERE, consult your Classified Telephone Book

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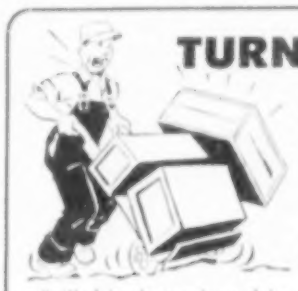

TURNOVER LIKE THIS COSTS YOU MONEY!

Spilled loads, trucking delays, underfoot hazards are costly. There's no substitute for a *real* heavy-duty floor—and that means concrete, *good* concrete.

Rebuild worn-out floors over week-end (no plant tie-up) with "Incor" 24-Hour Cement—ready to use in 24 hours, saves a week or more. Faster through "Incor"* curing means stronger, longer-lasting floors.

Write for booklet, "Heavy-Duty Floors"—address Lone Star Cement Corporation, 100 Park Avenue, New York 17.

*Reg. U. S. Pat. Off.

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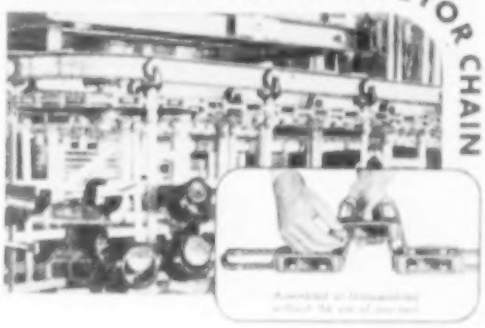
▼ BREVITY—Identify by IEN - 7192 if you write the maker ▼

THE BEST BUY IN A CONVEYOR CHAIN



Webb Rivetless Keystone Chain is Drop Forged from high carbon steel and heat treated for extra strength.

Developed by Jervis B. Webb Co. in the early 1920's for overhead conveyor use, this type of chain is now used in 90% of all overhead conveyors.

It is strong, flexible and economical—easy to install and replace. Available in 2", 3", 4" and 6" pitch.

Write for valuable engineering catalog on Webb chain and other parts that make a complete overhead trolley conveyor.

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MANUFACTURERS OF OVERHEAD AND FLOOR TYPE CONVEYORS

IEN-7193

Design + Metallurgy
=SATISFACTION

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If the part is properly designed (and this means taking the metallurgical treatment into account) the choice of a steel and its proper treatment become relatively simple.

So important are these aspects of good and poor design of parts in relation to the choice of steel and its treatment—the work of the designer and the metal'urgist—that we have compiled a 20-page book on this subject, giving many sketches as examples. "THREE KEYS TO SATISFACTION" is interesting and helpful to designers and metallurgists; it is free on request.

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IEN-7194

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FOR COMPRESSED AIR

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Automatic TRAP

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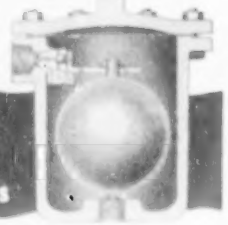
[illegible] E. Park St., Buffalo 12, N. Y.

ADAMS Poro-Stone AIR FILTER

IEN-7195

GET BETTER SERVICE
FROM SERVICE PIPING



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automatic vent
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WORKING PRESSURES: [illegible] to 150 Pounds as Air Vent Valves
[illegible] to 125 Pounds as Water Drain Valves

Install in air lines . . . or use in liquid services . . . you get only low-by piping efficiency and low-cost pressures or values in these conditions can be controlled easily with automatic by supplying pressure [illegible] Air Vent or Water Drain Valves.

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INDUSTRIAL EQUIPMENT NEWS

ECA IEN ECA

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What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 18 AUGUST, 1950 No. 8

Prices for Estimating

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W. E. Irish.

IEN-7196

HIGH EFFICIENCY
DUST CONTROL
with DUCON WASHERS

- Afford the most economical and efficient control and recovery of dust and fume because of superior design and unique features.

- In addition to use for washing of air and gases, DUCON Centrifugal Wash Coolers have been used for many other applications such as gas absorption, condensation of volatiles, heat exchange, distillation and chemical reactions.
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- Construction also plans electrically weld, yet fans accessibility to all internal parts. Built for simplified installation.

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Address Dept. E

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IEN-7197

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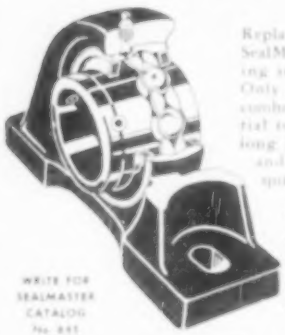
increase Efficiency
OF OLD EQUIPMENT.



Replace worn bearings with SealMasters. They give lasting service and economy. Only SealMaster bearings combine the features essential to smooth operation, long life, easy installation and top performance in quiet power transmission.

- Pillow Blocks
- Flange Units
- Take-Up Units
- Cartridge Units
- Flange Cartridge Units

WRITE FOR SEALMASTER CATALOG No. 845

Rexnord Division
STEPHEN S-ADAMSON Mfg. Co.
231 Alpine Ave., Alpine, Calif. · 116 Alpine, Calif., Bellevile, Ont.

Factory Representatives and Dealers in All Principal Cities

IEN-7198

WHEN YOU . . .
Disconnect, You Stop the Flow in Both Ends

EQUIPMENT MANUFACTURERS

Wiggins

For proof of performance, write for name of nearest representative. G. R. Wiggins Oil Tool Co., Inc., 3424 E. Olympic Blvd., Los Angeles 23, Calif.

QUICK DISCONNECT
INST-O-MATIC COUPLINGS

▼ BRIEFIT—Details in IEN-7199 if you write the maker —▼

MORE H. P. PER DOLLAR

with **LOVEJOY L-R**
Flexible Couplings

Couplings run quietly at high speeds without whip or backlash. There's no pinding, no power wasting. That's why you get more horsepower per dollar of coupling value. Resilient lead cushions instantly accommodate misalignment. Cushions for every duty 1/6 to 2500 h.p. No lubrication.

Write for the Lovejoy Catalog today . . . use the handy Selector Charts that quickly show you the coupling you need!

LOVEJOY FLEXIBLE COUPLING CO.
3014 W. LAKE ST. CHICAGO 24, ILL.

▼ BRIEFIT—Details in IEN-7200 if you write the maker —▼

S-A WINCHES
Save time and men

AT LOWEST COST

Don't take high-priced men from their regular jobs to lift or move heavy loads. It saves time and money to do most lifting and pulling jobs with an S-A Winch.

One man—with a hand winch—can lift as much as a time-up to 5,000 pounds with an S-A Motor Winch. Get operating costs this economical way!

Write for Winch Bulletin 340 and consider possible savings.

S-A Hand Winch Style No. 30

STEPHEN S-A DAMSON

Tellevel Bin Level Controls • Car Loaders
SACO Speed Reducers • Car Pullers • Winches
SealMaster Ball Bearings

331 Ridgeway Ave., Aurora, Illinois

▼ BRIEFIT—Details in IEN-7201 if you write the maker —▼

22-YEAR RUN IN PRINTING PLANT
. . . and Still Going Strong!

PABCO MASTIPAVE

AMERICA'S No. 1 LOW-COST LONG-LIFE FLOOR COVERING

"The Mastipave laid in our San Francisco Plant in 1927 is still in excellent condition after twenty-two years of constant service," says Frank T. Sheedy, Production Manager, Stecher-Traung-Lithograph Corporation, nationally known printing firm. "It has successfully withstood tight cracking in the aisles, and chemicals and acids in the photo rooms. We do not know of any other material we could have used that would have withstood such use and still be in its excellent condition."

EVERY BUILDING NEEDS PABCO MASTIPAVE

For 25 years, the Nation's blue chip industries, public carriers, hospitals, public school systems have demonstrated that Pabco Mastipave—both regular and non-slip Grip Tread types—costs little, looks good, wears even better. Grip Tread Mastipave is sold in roll goods only; regular Mastipave in roll goods and tiles.

SEND NOW FOR THE FULL STORY OF MASTIPAVE!

THE PARAFFINE COMPANIES, INC.
New York 16 • Chicago 54 • San Francisco 19
Mail to Dept. E, nearest office.

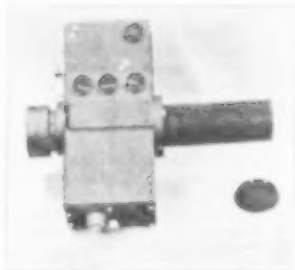
GENTLEMEN: Without cost or obligation to me, please send folder, "Every Building Needs Pabco Mastipave."

NAME _____ CITY _____
ADDRESS _____ STATE _____

▼ BRIEFIT—Details in IEN-7202 if you write the maker —▼

PYROMETER . . Electronic instrument is actuated by infra-red radiation

Source: HANSON-GORRILL-BRIAN INC.
1 Continental Hill, Glen Cove, N. Y.



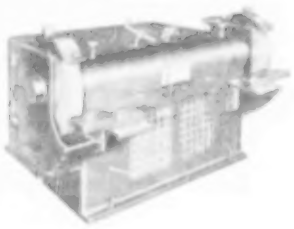
Infra-red energy [illegible]

A parabolic reflector [illegible]

▼ BRIEFIT—Details in IEN-7203 if you write the maker —▼

GRINDING . . Floor stand machine, two motors drive independent spindles

Source: STANDARD ELECTRICAL TOOL CO.
2609 River Road, Cincinnati 4, Ohio



Twin Motor No. 50

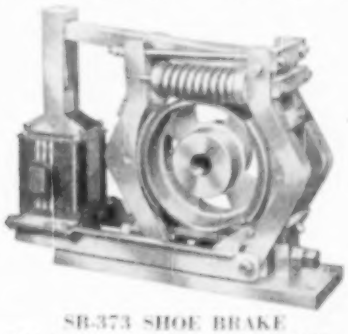
[illegible]

Adjustable guards [illegible]

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER — Description — Ratings — See Page 10

▼ BRIEFIT—Details in IEN-7204 if you write the maker —▼

TROMBETTA SOLENOID CO.
331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.



SB-373 SHOE BRAKE
10" WHEEL, 5" FACE, 150 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE 3 TO 16500 FT.-LBS.

B-100 LINE OF DISK BRAKES
TORQUE 10 TO 25000 FT.-LBS.

EIGHT LINES OF SOLENOIDS
RECIPROMOTORS AND SEMOTORS

▼ BRIEFIT—Details in IEN-7205 if you write the maker —▼

CHROMALOX ELECTRIC RADIANT HEATERS
Wiltland Dark Blue Finish Models

[illegible]

CHECK THESE ADVANTAGES
1 VARIABLE heat to suit the job.
2 UNIFORM heat over the work.
3 EQUAL absorption by all objects.
4 ALL-METAL, welded to shelter.
5 EASY TO FORM [illegible]

[illegible]

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

▼ BRIEFIT—Details in IEN-7206 if you write the maker —▼

POSITIVE ALIGNMENT

R·B INTERCHANGEABLE PUNCHES and DIES

[illegible]

GET THE WHOLE STORY IN THIS 48-PAGE FREE CATALOG

ALLIED PRODUCTS CORPORATION
RICHARD BROTHERS DIVISION

Also Produced in Allied's Own Plants . . . HARDENED AND PRECISION GROUND PARTS • STANDARD CAP SCREWS • SPECIAL COLD FORGED PARTS • SHEET METAL DIES • ALLITE DIES CAST OF ZINC ALLOY • JIGS • FIXTURES •

▼ BRIEFIT—Details in IEN-7207 if you write the maker —▼

GET "Coordinated" MOTOR-CONTROL SERVICE

IN THE SAME PLANT in which Allis-Chalmers builds its famous *Safety-Code* motor line it also has Control Experts who recommend exact matching motor starters on every motor order.

It is their business to make certain that important starter details such as type, size, enclosure and protective devices are correct for your application.

Whether you are investing in motors and starters or starters alone, this time and money-saving experience is at your service. Remember . . . for a type and size starter to fit any motor requirement, call your nearby A-C authorized dealer or Sales Office. Or write for Bulletin B-7132. — A 7101

ALLIS-CHALMERS, 909A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

BREVITY—Identify by IEN - 7208 if you write the maker

ENGINEERED CONVEYORS

for MAXIMUM OPERATING EFFICIENCY

MANUFACTURERS of PORTABLE CONVEYORS POWER HELPERS CONVEYOR SYSTEMS

Ask Metzger to suggest a "Most-for-your-Money" conveyor system to meet your requirements.

Reduced handling costs will strengthen your position in a market that is growing more and more competitive.

WRITE FOR DESCRIPTIVE FOLDER

METZGAR

METZGAR CO.
417 Douglas N. W.
GRAND RAPIDS 4, MICH.

BREVITY—Identify by IEN - 7209 if you write the maker

SAVES $30 EVERY CAR UNLOADED

With a 2-ton American MonoTractor Crane System, carloads of pipe averaging 60,000 lbs. are unloaded at a saving of $30 a car.

Every American MonoRail Handling System pays and saves — we'll gladly send an engineer.

THE AMERICAN MONORAIL COMPANY
13111 Athens Avenue • Cleveland 7, Ohio

BREVITY—Identify by IEN - 7210 if you write the maker

NEW For STAINLESS TUBE USERS

QUICK FACTS
Bulletins

giving you information on

- Corrosion Resistance
- Fabrication
- Physical Constants

THE CARPENTER STEEL COMPANY

BREVITY—Identify by IEN - 7211 if you write the maker

GAGE . . Table and column assembly mounts dial indicator for use at bench

Source: L. S. STARRETT CO.
100 Starrett St., Athol, Mass.

No. 652 is a new assembly of this circular base, 13/16-in. steel column, adjustable 2-in. circular table and one of the company's No. 25-B dial indicators reading to .025 in. on both sides of zero. Half-thousandth divisions show on the dial which is numbered at each 5 thousandths.

The gage can be set to take work to 1¾ in. in height. Throat depth is 1⅝ inches. The table has 1/3-in. fine adjustment. Overall height is 9¼ in. and weight is about 5 pounds. The indicator is equipped with a lever to raise the spindle for work insertion following setup to a master or to block gages.

BREVITY—Identify by IEN - 7212 if you write the maker

POLISHING . . Soft abrasive rubber to surface commutators, slip rings

Source: CO-OPERATIVE UTILITIES CO.
4635-41 Mulberry St., Philadelphia 24, Pa.

Polishes to a mirror finish

Rubres trade name for line of rubber-base abrasive mats to take the place of sandpaper, emery cloth in polishing and cleaning the surfaces of commutators, slip rings and metal production parts. Twenty sizes in the line range from ⅝ by ⅝ to 5 in. to 1 by 3 by 6 inches. Your price is 30 cents to $9.

BREVITY—Identify by IEN - 7213 if you write the maker

STRIPPING . . Burner head for acetylene torch to strip paint

Source: NATIONAL CYLINDER GAS CO.
838-42 N. Michigan Ave., Chicago 11, Ill.

New burner head has been designed by the company to apply on its Torchweld "75" oxygen-acetylene cutting torch to strip paint from a metal surface and also to remove rust and dry the surface for repainting. The head threads into the torch, rides on replaceable feet that hold it a correct distance from the work.

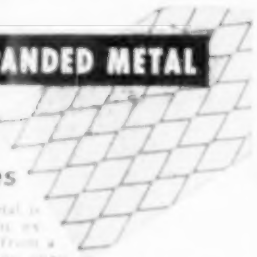
List price is $35 for the 2-in. head alone, $39 for the 4-in. head. The torch adds $29. Speed is about 900 sq. ft. of stripped surface per hr. with the 4-in. head.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

BREVITY—Identify by IEN - 7214 if you write the maker

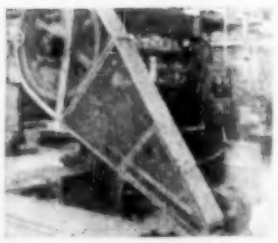
TRUSCON EXPANDED METAL

the steel for a thousand plant services



• Truscon Expanded Metal is a diamond mesh fabric expanded into flat sheets from a solid plate of low carbon open hearth steel. The steel is cut and drawn so that regular, symmetrical diamonds are formed with uniform strands.

Truscon Expanded Metal is furnished plain, painted, galvanized, bonderized or galvanized. Suggested uses to mention a few: tree boxes, refuse burners, hot air registers, air filter containers, louvers, waste baskets, radiator covers, truck body enclosures and machine guards.



TRUSCON Steel Company
YOUNGSTOWN 1, OHIO
Subsidiary of Republic Steel Corporation

BREVITY—Identify by IEN - 7215 if you write the maker

PUMPS . . . Positive displacement with "magic" pumping element

Available from PEERLESS PUMP DIVISION
Food Machinery and Chemical Corporation

A hard chrome helical rotor rotating within a hydrated cotton lubber stator produces the unique positive displacement pumping action of Peerless Hi-Lift pumps. Water is virtually squeezed upward to pressures from 50 to 1,000 gallons per hour against heads up to 100 feet from wells as small as 4" inside diameter. The Hi-Lift is adaptable to varying lifts without changing the pumping element or losing pumping capacity. Sand and corrosion have little effect on pumping efficiency. The water lubricated shaft bearings are long-wearing rubber bearings so water is never contaminated with oil. Just turn on volume and keep water coming full, eliminating the need for pre-lubricating the bearings every time pump is started. Hi-Lift pumps may be had with a direct connected electric motor drive, belt drive or horizontal gear drive, making the pump adaptable to a variety of industrial and commercial installations. Completely described in Bulletin B-141. Write for copy today.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Factories: Los Angeles, California, and Indianapolis, Indiana
Offices: New York, Atlanta, Fresno, Los Angeles, Chicago, St. Louis, Phoenix, Dallas, Pittsburgh and Lubbock, Texas

BREVITY—Identify by IEN - 7216 if you write the maker

For Faster LIFTING For Safer LOWERING

SIMPLEX
RATCHET LOWERING JACKS

NO. 22
10 TON CAP.

SIMPLEX HYDRAULIC JACKS

Available in eight models handling from 100 tons—tested to 100% overload. Write for Bulletin HJ-47.

Use these single acting jacks for safe, sure work in lifting, lowering, pushing or pulling. Double lever sockets speed work in cramped quarters and in angular lifting. All models will lift full capacity on the toe or on the cap—a feature that only Simplex can give you.

Available in 10 models with capacities ranging from 5 to 35 tons, and lift from 7 to 18 inches. All have two-way standard lever socket except three largest models; these are available with any of three types of sockets. Delivered with lever included.

For full information, write for Bulletin Industrial 48.

Simplex
LEVER — SCREW — HYDRAULIC
Jacks

TEMPLETON, KENLY & CO.
1012 South Central Avenue, Chicago 44, Illinois

BREVITY—Identify by IEN - 7217 if you write the maker

EYE LEVEL CHECK
ON BOILER WATER LEVELS

Positive, constant check on boiler water levels is now possible at eye level—right on the instrument panel or other convenient location.

Yarway's Remote Liquid Level Indicator is always accurate because it's operated by the boiler water itself. No stuffing boxes. Indicating mechanism is never under pressure.

Ideal for indicating boiler water level, feed heater water level, superheater pressure differentials and tank levels. For complete description and operating details, write for Bulletin WG-1821.

YARNALL-WARING COMPANY
222 Mermaid Avenue, Philadelphia 18, Pa.

YARWAY
REMOTE LIQUID LEVEL INDICATOR

▼ BREVITY—Identify by IEN - 7218 if you write the maker ▼

Ledeen CYLINDERS IMPROVE THE JOB

CYLINDER SPEEDS PRESSURE TESTING

This 12" diam. x 12" stroke Ledeen Heavy Duty Cylinder, used as an air-oil booster, raises 100 P.S.I. pressure to as high as 3500 P.S.I. Gate valves, requiring varying pressures, are being approval tested.

There are Ledeen *medium duty, heavy duty* and *super duty* cylinders for air, oil or water operation ready to help you, wherever you have to — push or pull • lift or lower • press or squeeze • tilt or turn • open or close.

Standard Ledeen cylinders and mounting attachments are available from distributors' stock in major cities. Special cylinders on order.

LEDEEN CYLINDERS ARE GOOD CYLINDERS

WRITE FOR NEW BULLETIN 500

Ledeen MANUFACTURING CO.
1602 SAN PEDRO STREET • LOS ANGELES 15, CALIF.

▼ BREVITY—Identify by IEN - 7219 if you write the maker ▼

NEW TWISTS IN RUBBER

"... one most problem involving the bonding of rubber to metal or the coating of rubber parts. U. S. Rubber engineered modern rubber 'Heart' Needed Modifications and summary.

Will design assure the proper function of the product in service? Will it take full advantage of the properties of the rubber component involved — to minimize strength, maximum endurance?

These problems must be answered from experience, for a common rule recommended by scientific experts is rubber.

Finally, the rubber in the product is meant to move, stretch or will be required withstanding to service. Rubber comes in engineer-friendly one century the hundred "A" compounds, whenever you to work on your problem, with Dunlop in mind Fort Worth Engineering Sent "Accelerators Sealed". A Complete House of Service. Write to the address below.

U.S. RUBBER SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
Engineered Rubber Products Division • Rockefeller Center, New York 20, N. Y.

▼ BREVITY—Identify by IEN - 7220 if you write the maker ▼

Simplify Industrial
CODE MARKING with "SAFETY" SYMBOL STAMPS

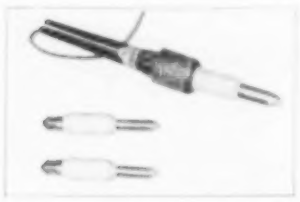
"Safety" code symbol stamps simplify inspection and piece work identification marking. Shown is a complete range of stamps for various inspection code marks. Write today for data on stock or specially designed stamps for your coding requirements.

M. E. CUNNINGHAM CO.
SAFETY STEEL STAMPS
99 East Carson Street • Pittsburgh 19, Pa.

▼ BREVITY—Identify by IEN - 7221 if you write the maker ▼

SOLDERING . . Small electric iron employs 20-watt interchangeable tips

Source: UNGAR ELECTRIC TOOL CO.
609-17 Ducommun St., Los Angeles 54, Calif.



Hi-Heat designates two new tips that have been developed for use in the Ungar pencil Soldering Pencil. One new tip is pointed. The other has a chisel end. Tip diameters are 1/4 and 5/16 in. respectively.

Both mount their heating elements between the tip shank and the screw-type base that threads into the insulated holder. The tip is made of beryllium.

List price for the holder with 6 ft. 3½ ft. rubber-covered extension cord and plug is $3. The two new tips sold $1.25 each. Five previously developed tips, all interchangeable, list at $1 each. Overall length of the iron with a tip in place is 7½ inches. Weight is negligible.

▼ BREVITY—Identify by IEN - 7222 if you write the maker ▼

FLOORS . . Mineral asphalt material for patching and resurfacing any floor

Source: ROCK-TRED CORP.
7438-42 N. St. Louis Ave., Skokie, Ill.

Finishes out to a feather edge

Mixitred trade names new material shipped in sealed 450-lb. 55-gal. drums to mix with Portland cement, sand, stone and water and trowel into broken and worn spots or to resurface considerable floor areas. A portion of the material is thinned with water to form an initial bond coating without the cement or sand. Average coverage per drum is 500 to 550 sq. ft. measuring ½ in. in thickness.

The company supplies detail instructions with each order for application under given conditions. When it is done correctly, the repaired floor will provide an excellent surface for bottom-load trucking within 20 hours. Following completion

▼ BREVITY—Identify by IEN - 7223 if you write the maker ▼

SCREW DRIVING . . Magnetized bits contain Alnico in shank assemblies

Source: MAGNA TOOL CORP.
777-81 Washington St., Buffalo 3, N. Y.

New line of machine bits for screw driving includes four types of slotted and recessed head. They are made of hardened tool steel and are available for all makes of power driver in ¼ and 7/16 in. hexagon shank, lang drive and threaded shank. The magnetized bit will hold a ferrous screw firmly for driving.

The company also offers a new magnetized hand driver for hexagon head screws and hexagon nuts from ¼ to ½ inch.

All Makes of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 7224 if you write the maker ▼

1st Aid to - Manufacturing Assembling Shipping

SEND FOR YOUR COPY TODAY!

Production men will *profit* by the information contained in this new Logan book. It shows *dollars* and *cents* savings with Logan Conveyors in actual case histories, and sketches of typical handling solutions. Write today for your copy. There is no obligation.

Logan Conveyors
LOGAN CO., 200 CABEL ST., LOUISVILLE 6, KY.

▼ BREVITY—Identify by IEN - 7225 if you write the maker ▼

QUICK-READING TEMPERATURE-CONVERSION TABLES

For speed, when you're converting degrees F to C, and vice versa, you can now use a simple, compact "Sauveur-typ" table all the way from absolute zero to 3350 C and 6062 F, in increments of one degree.

For quantities, there's a slight charge: ten copies for 75¢; 50 for $3.25; 100 for $6.00. To minimize bookkeeping, we must ask that orders be accompanied by check for the exact amount, addressed to our Advertising Dept. . . . but please note that a single copy will be sent free on request. Better get one!

LEEDS & NORTHRUP COMPANY, 4901 STENTON AVE., PHILA. 44, PA.
LEEDS & NORTHRUP
MEASURING INSTRUMENTS — TRANSMITTERS — AUTOMATIC CONTROLS — HEAT TREATING FURNACES
(Ad 18-310)

▼ BREVITY—Identify by IEN - 7226 if you write the maker ▼

SLASH CLEANING and COOLING COSTS with REX FLAT SPRAY NOZZLES

• The hard-hitting flat sheets of water from Rex Flat Spray Nozzles do a top-notch job of cleaning or cooling a wide range of products—and at practically no cost.

Of simple, one-piece construction, they require no adjustment . . . assure a flat, uniform spray of maximum impact force. The only operating cost is for water, and consumption is very low.

Send for our descriptive booklet, using coupon below.

CHAIN BELT REX COMPANY — FLAT SPRAY NOZZLES

Chain Belt Company
1679 W. Bruce Street, Milwaukee 4, Wis.
Please send me a copy of Bulletin 50-50
Name
Company
Title
Address
City
State

▼ BREVITY—Identify by IEN - 7227 if you write the maker ▼

Electroforged into one piece for STRENGTH

Self-cleaning
Easily Maintained
Maximum open area
Simple to cut and bend for fitting around obstacles
Adaptable to many uses

Blaw-Knox Electroforged Stair Treads available with rolled diamond checker plate nosing, twisted cross-bar nosing or abrasive nosing.

and SAFETY

NON-SLIP — the twist does the trick • Maximum safety and strength . . . that's the ideal combination in Blaw-Knox *electroforged* Steel Grating. Each individual joint is electrically forged together in a union stronger than the surrounding metal! The twisted bar construction gives a firm grip on shoe soles, makes slipping impossible.

WRITE FOR BULLETIN 2206

BLAW-KNOX DIVISION of Blaw-Knox Company
2050 Farmers Bank Bldg., Pittsburgh 22, Pa. — Offices in Principal Cities

BLAW-KNOX ELECTROFORGED STEEL GRATING

IEN-7228

For an adhesive that's
VERSATILE · STRONG · QUICK-DRYING

try *Pliobond*

THERE'S one answer to all bonding problems—**Pliobond**, the adhesive that "bonds anything to anything." For practically any solids adhere permanently to themselves or each other when bonded with this cold-setting, rubber-like thermoplastic liquid. **Pliobond** provides a waterproof, chemically-resistant bond characterized by very high strength, extremely quick set and permanent flexibility.

For full information on this universal adhesive—with its multitude of uses in industry and the home—write to: GOODYEAR CHEMICAL DIVISION AKRON 16, OHIO

GOODYEAR

IEN-7229

STOP LIQUID PROCESSING WASTE!

BOWSER, INC., 1118 Creighton Ave., Fort Wayne 2, Ind.

LIQUID CONTROL SPECIALISTS SINCE 1885

IEN-7230

CRANE WHEELS AND WHEEL ASSEMBLIES

INSTALL THESE WHEEL ASSEMBLIES

DOUBLE FLANGED WHEELS

SINGLE FLANGED WHEELS

WRITE FOR CATALOG

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
340 W. VERNON AVENUE
LOS ANGELES 37, CALIF.

Electric Cranes • Hand Cranes • Jib Cranes • Hoists • Chain Blocks • Rope Slings • Rope Hooks • Crane Trucks Hoist • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake • Crane Hook Blocks

IEN-7231

PRESS TOOLS . . Punch and die units set in multiple to template or layout

Source: WALES-STRIPPIT CORP.
261 Payne Ave., North Tonawanda, N. Y.

Capacity is for holes to ½ in. in thickness in ½ in. steel plate for this new Tryoid punch-and-die unit. Each consists of the aligning housing that carries the stripper-guide die and the corresponding punch and other aligning.

A feature in the design is the stripper mechanism which spits pieces which malfunction or interrupt flowline of the press ram to prevent itself from the punched hole. The press ram is a required package of any press with available capacity. Function of the press is left to supply the punching pressure and the work surface.

IEN-7232

POWDERED METAL PARTS . . Bushings, cams, special parts to specification

Source: PURE CARBON CO.
50 Wellsville St., St. Marys, Pa.

Company offers design assistance

Production

Inspection

IEN-7233

MARKING . . Air operated machine to number, code, date large paper bags

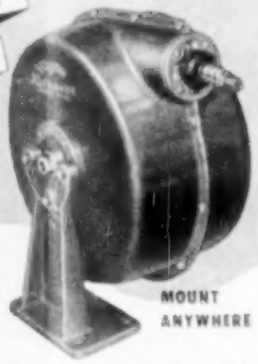
Source: WM. A. FORCE & CO.
214-18 Nichols Ave., Brooklyn 8, N. Y.

Wheel type head [illegible]

All Makes of These and 40 Other Products Are Listed in THOMAS REGISTER Descriptions Ratings See Page 10

IEN-7234

handles GREASE WATER AIR OIL



MOUNT ANYWHERE

Wayne

HOSE REELS

FOR SAFETY keep hose off the ground, out of the way. Reel handles oil, water or grease as well as air. Hose unreels easily, retrieves smoothly. Universal mounting bracket permits mounting in any position anywhere, on floor, ceiling wall or bench. Several sizes, types and capacities up to 50 ft. of ½" I. D. hose. Write for bulletin today.

THE WAYNE PUMP CO. • FORT WAYNE 4, INDIANA
831 Tecumseh Street

IEN-7235

COPY
60 times faster with
OZALID!

IT'S OZALID . . .

FREE: [illegible] OZALID, Dept. H-34, [illegible] New York [illegible]

Cut Copying Costs . . . Use OZALID!

A DIVISION OF GENERAL ANILINE AND FILM CORPORATION
FROM RESEARCH TO REALITY

IEN-7236

NOW — Precision Balls of Synthetic Sapphire

These balls are synthetic sapphire, polished to within .20" [illegible] of sphericity, are unaffected by acids, lean, and corrosion. In many applications they need not be lubricated.

Available in [illegible] in inch, [illegible] and [illegible] inch and in three surface finishes.

PROPERTIES

Coefficient of Friction	[illegible]
Hardness (Knoop)	[illegible]
Specific gravity	[illegible]
Modulus of Rupture	[illegible]
Thermal Coefficient of Expansion at 93.5 Cyber C x 10⁻⁶	[illegible]
Operating Temperature	[illegible]

Call or write any Linde office for information on these balls or the other forms of synthetic sapphire

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation
30 East 42nd St. New York 17, N. Y.
In Canada: Dominion Oxygen Company Limited, Toronto

IEN-7237

NEW Pullers! NEW Features!!

Our Octopuller has several new brothers, to help you do more jobs better and faster. Only a few are illustrated but the list includes four "live center" screw tips, a bearing separator puller, fourteen hollow shaft step plates, three new jaws and five improved jaws. Arm yourself with these new time savers at your PROTO* dealer's. Write for catalog to

PLOMB TOOL COMPANY
2221 W. Santa Fe Avenue,
Los Angeles 54, California

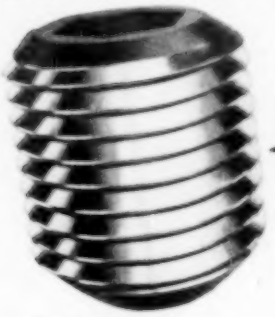
*PROTO means PROfessional TOols. It's the new name for the tools that have been preferred for 43 years.

PROTO TOOLS LOS ANGELES

BREFIT—Identify by IEN-7238 if you write the maker

Parker-Kalon GROUND THREAD Socket Set Screws

SET RIGHT with SHOP MEN



RIGHT START
Quick starting. Speed assembly work and increase production.

RIGHT FINISH
Made from hardened stock. Smoothness of a true ground finish.

RIGHT FIT
Free from sticks, burrs and tool marks. Dependable Class 3 Fit.

RIGHT BUY
More for the money — quality — in part, because

SEE FOR YOURSELF!

Send for Samples. Notice how much smoother (and easier starting) P-K® Quality Controlled Socket Set Screws are, the way they "set up" to dependable security. Once you try 'em, you'll use them regularly — to speed assembly work. Write for samples. Parker-Kalon Corp., 200 Varick St., New York 14, N. Y.

P-K
PARKER-KALON®
cold forged
SOCKET SCREWS

Slot-Marked Socket Head Cap Screws • Ground Thread Socket Set Screws
Flat Head Socket Cap Screws • Stripper Bolts • Pipe Plugs • Hex Keys
Available Everywhere Through Accredited Distributors

BREFIT—Identify by IEN-7239 if you write the maker

We Make the SECONDS COUNT for YOU!

Our method saves you time and labor figured not only in minutes, hours, days or months, but **SECONDS AS WELL**, through the remarkable speed of

DETROIT POWER Screwdrivers

In fact, you can **DRIVE SCREWS AS FAST AS ONE A SECOND**; a tremendous gain over the old slow hand method—Any kind of screws; machine, wood, brass, self-tapping, sheet metal screws, standard heads, special heads.

No danger of marring heads or stripping threads—and all screws are driven to uniform tension. Hopper fed, no handling of screws is necessary. Thousands of manufacturers have adopted this modern method of speeding production—You, too, should get further details. There is a Detroit Power Screwdriver to fit your requirements.

Our new catalog is just off the press—

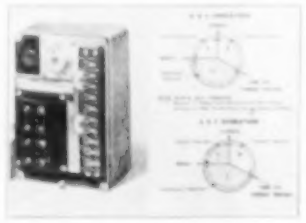
Mail Coupon for Catalog

DETROIT POWER SCREWDRIVER CO.
2615 WEST FORT ST., DETROIT 16, MICHIGAN
Yes, send along your new catalog . . . sounds interesting.
COMPANY NAME
BY
STREET ADDRESS
CITY STATE

BREFIT—Identify by IEN-7241 if you write the maker

TIMING . . Electronic equipment for operating, limit and sequencing use

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



New timer, Type GTA-505, somewhat a timing potentiometer, a GE Type GT1 contactor, like an industrial relay containing two Form C single-pole double-throw contacts. The second of the two provides snap action response or can be used to control an auxiliary circuit. Also included in the 5½ by 5¼ by 8 in. housing is a terminal connection board, a removable cover and provision at the back to bring in the required circuit wiring. Three timing ranges are .06 to 12 sec., 6 to 12 sec., 6 to 120 seconds. Contact rating is to carry 30 amp. on 120 volt ac.

The timer provides two forms of operation to control a time delay in operation of its magnetic relay after an external switch, contact or interlock is actuated. One is known as EDE and includes de-energized condition during the reset period, de-energized also during the timing period and energized during the timed-out period. The other, known as EDE, is energized during the reset period, de-energized during the timing period and energized during the timed-out period.

Applications include operation timing over spray painting, plating, heat treating, limit timing to stop conveyor belts if material piles up, sequence timing employing two or more of the timer assemblies to control duration of succeeding operations and actuate subsequent ones.

BREFIT—Identify by IEN-7242 if you write the maker

BENDING . . Pneumatic machine for material to ¼ by 4 inches

Source: J. A. RICHARDS CO.
907 N. Pitcher St., Kalamazoo 13, Mich

Control centers at a Hydraulic pneumatic valve taking pressure at 100 lb. from a shop line to develop rated capacity in this new Air Model bending machine. It is made in two sizes with racing for ¼ by 2 in. in mild steel and ¼ by 4 in. Both have tables high as 30 in. above the floor. Dies are made to use of bending arm and mandrels. Extensions models also can be supplied for the user to make additions special dies.

The new machines incorporate the company's standard valve pressure-control (EN-7290-B). Design is simple in the proposed of a mechanism part is back on one side of the bending arm, normally with a mandrel mounted from one side through a hinge bracket. It gives the air-operated bend and return. A speed regulator part provides an adjustable speed to a gear on the free movement part to accelerate to allow the bending pressure to develop. The bend-clamping and the bend can be released when standard flow are used in connection with the main manufactured part to operate follows: etc.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings! . . See Page 30

BREFIT—Identify by IEN-7243 if you write the maker

RUEMELIN BLAST GENERATORS

A practical low-cost sand blast used by plant engineers for maintenance work. Cleans rust, paint, scale from piping, valves, fittings, renovating buildings, stripping paint from trucks, busses, trailers, railroad cars, structural steel, storage tanks, ship hulls, etc. Can be fitted with Wet Adapting Nozzle for eliminating dust.

Write for Bulletin 36-8

RUEMELIN MFG. CO.
3563 N. Palmer St.
Milwaukee 12, Wis.

Manufacturers and Engineers
SAND BLAST AND DUST COLLECTING EQUIPMENT, WELDING FUME COLLECTORS

BREFIT—Identify by IEN-7244 if you write the maker

BREFIT—Identify by IEN-7245 if you write the maker

New report on savings with centralized lubrication

YOURS for the asking

FOR more than 20 years, Farval has been saving money for users. Through efficient, dependable lubrication of machines and industrial equipment of all kinds, Farval saves 4 ways: It saves oiling labor, it saves lubricant, it reduces bearing expense, it eliminates down time.

The Farval System is a positive mechanical method of delivering oil or grease under pressure to a group of bearings from one Central Station, in exact quantities, as often as desired. It consists of a central pumping unit, two main supply lines and a measuring valve for each bearing.

Catalog No. 25 and "Case Studies—1950" give you the facts and figures. The Farval Corporation, 3258 East 80th Street, Cleveland 4, Ohio.

FARVAL
CENTRALIZED SYSTEMS OF LUBRICATION

BREFIT—Identify by IEN-7246 if you write the maker

YOURS . . . FREE!

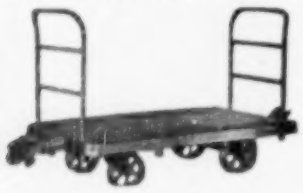
"Guide to Better Packing and Shipping Methods"

No matter what you ship, or the types of carrier service you use, the 44 also packed pages of this illustrated booklet will tell you how Signode steel strapping, tools and equipment can help you lower freight costs, provide better safer packing, reduce damage to products in handling, warehousing and in transit. Eliminate pilfering, reduce container costs, and insure greater customer satisfaction with these methods. Mail coupon now!

Signode Steel Strapping Co.
2611 N. Western Ave., Chicago 47, Illinois
Mail us at once, without cost or obligation to us in any way, your 44-page booklet, "Guide to Better Packing and Shipping Methods."
Name Title
Company
Address
City State

THIS SEAL MEANS SSSI SECURITY IN SHIPPING

▼ REFER TO—Identify by IEN - 7247 if you write the maker ▼



LANSING *All Steel Trailer*

Built to stand up under the most severe tiling load work. Strongly built, reinforced. Platforms 3 x 6 ft. Heat Bearings. Capacity 2 tons, weight 500 lbs. Special Lansco coupler.

WRITE or WIRE FOR CURRENT LOW PRICES
and information on Full Line

LANSING COMPANY

TRUCKS • TRAILERS • BARROWS • CASTERS • CARTS • ETC.

"Keep Your Products on Wheels"

Main Office and Factory
LANSING, MICHIGAN

▼ REFER TO—Identify by IEN - 7248 if you write the maker ▼

WAGNER - Unit Substation Transformers

the *Vital* part of any Unit Substation

You can be sure of a dependable continuous flow of power from a Wagner transformer and you can be sure that it has been carefully designed to meet your distribution requirements.

Wagner unit substation transformers with incoming high voltage switch sections to meet your requirements, and with proper fitments on the secondary side for connection to any make of switchgear, are available in the usual range of ratings up to 2000 kva.

Wagner unit substation transformers can be thrust connected to any make of switchgear.

Our free bulletins TU-13 and TU-56 describe the design and construction features that make Wagner liquid-filled and dry-type unit substation transformers outstanding.

Wagner Electric Corporation

6414 PLYMOUTH AVE.,
ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

▼ REFER TO—Identify by IEN - 7249 if you write the maker ▼

BIN-FLO

Provides STEADY FLOW of Bulk Materials

New oscillating device provides uniform steady flow of most dry finely ground materials from bins, hoppers, chutes, and silos.

BIN-FLO units are located at points of restricted flow. Low-pressure air supply may be controlled by BIN-DICATORS.

THE BIN-DICATOR COMPANY
13866 Kercheval Avenue Detroit 15, Michigan

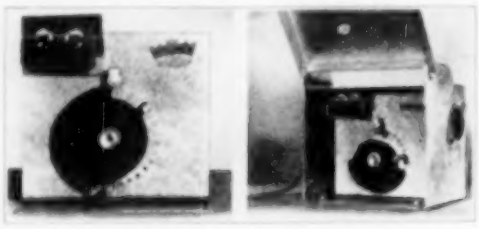
Please send us new 20-page illustrated catalog on Bin-Dicators and information on Bin-Dicators. Also send data on Bin-Flo Aerator units.

Name _____
Address _____
City _____ State _____
N-8

▼ REFER TO—Identify by IEN - 7250 if you write the maker ▼

TIMING . . Motor driven assembly oscillates cam to actuate Micro switch

Source: GALE DOROTHEA MECHANISMS
37-69 85th St., Jackson Heights, N. Y.



Any variation of a timing cycle of 2 to 10 sec. or from 15 sec. in closed and 3 sec. in open circuit to 4 sec. closed and 15 sec. open can be set by positioning plug stops in threaded holes in this new motor-driven timer. The cam-operated Micro switch is single-pole single-throw or combination design, the latter providing for two control circuits. Electrical rating is 10 amp. on 110 volt ac. in standard construction. Greater capacity to 17 amp. can be specified.

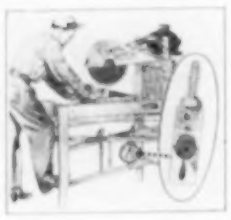
The synchronous motor carries the operating cam on its shaft. It is designed to start in either direction depending on the relative position of its rotor poles and field poles and the polarity of the ac. input current. Thus it turns in either direction at the starting instant until the cam shoulder strikes one stop pin on the other and stops the motor. In less than 1/60 sec. the polarity reverses and the cam rotates in the opposite direction until it strikes the other pin. This action repeats and so oscillates the cam to alternately open and close the switch contacts until the drive circuit is opened.

The motor is a 3 cps. unit that requires no oil or lubrication. The switch is an Underwriters approved unit with rotary actuator and is rated at 2,000,000 operations minimum. Assembly is on a metal panel in open arrangement or in a housing that measures about 5 by 5 by 5 inches. Input is provided with a cord and plug. The output is connected by plug and into a receptacle in the side.

▼ REFER TO—Identify by IEN - 7251 if you write the maker ▼

CUTTING . . Abrasive disc machine for masonry adjusts for blade pressure

Source: CLIPPER MFG. CO.
2802 Warwick Ave., Kansas City 8, Mo.



New adjustment has been added to the company's abrasive machine to the connection between the foot-lever and the pull-down arm so pressure between blade and work can be spring regulated for soft, medium and hard materials. Materials under the three classes are brick or tile, concrete products, glass or marble.

The machine is available in nine models and can be specified for wet or dry cutting. Eight of the models are equipped with the new adjustment. Drive is by a belt connected motor to the disc arbor. The cutter head carrying the motor mounts adjustably above the work table.

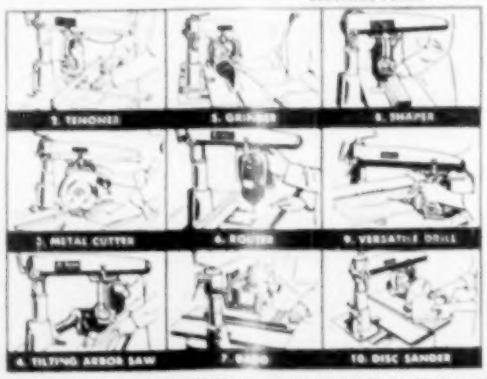
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ REFER TO—Identify by IEN - 7252 if you write the maker ▼

10 POWER MACHINES IN ONE!

That's what you have (and more) when you own a flexible, all-purpose DeWalt. It's fast, accurate, safe—built for continuous service. Write for catalog.

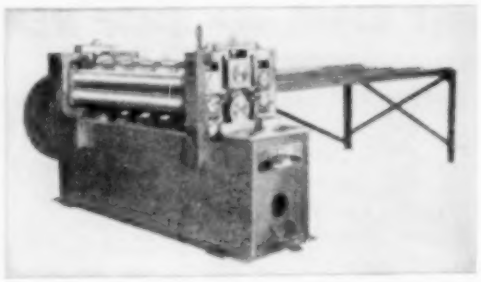
DE WALT INC.
105 Fountain Avenue
Lancaster, Penna.



▼ REFER TO—Identify by IEN - 7253 if you write the maker ▼

RAFTER GANG SLITTER

For Lasting Accuracy



With or without feed rolls for the slitting of varied widths and gauges of metal. Machined and accurately ground cutter shafts made of high-grade carbon steel. Machine cut gears. Generous size bearings. Vertical adjustment of upper spindles allows mounting of double edge type cutters. By removing two bolts, the end housing is drawn from cutter shafts permitting quick change of cutters. Spacer collars machined and marked for particular job, easily and simply removed for change over of various cutting widths. All features represent accuracy, speed and economy.

RAFTER MACHINE COMPANY, INC.
SINCE 1917
249 Stephens Street Belleville 9, N. J.
COLD ROLL FORMING MACHINES
& PRESS BRAKE FORMING DIES

▼ REFER TO—Identify by IEN - 7254 if you write the maker ▼

CMH FLEXIBLE MACHINE TOOL CONDUIT

FOR SAFE, DEPENDABLE wiring under all conditions...

Consisting of a rugged flexible metal hose liner with a durable synthetic cover, CMH Machine Tool Conduit meets the severest requirements for the wiring of all types of machinery. It is extremely flexible . . . liquid tight . . . unaffected by vibration . . . and has a smooth metal bore that prevents excessive abrasion. Sizes ⅜" through 2", cut lengths or mill lengths. May be used with standard rigid conduit fittings. Write for full details.

CMH Machine Tool Conduit used on a Giddings and Lewis Injection Molding Machine

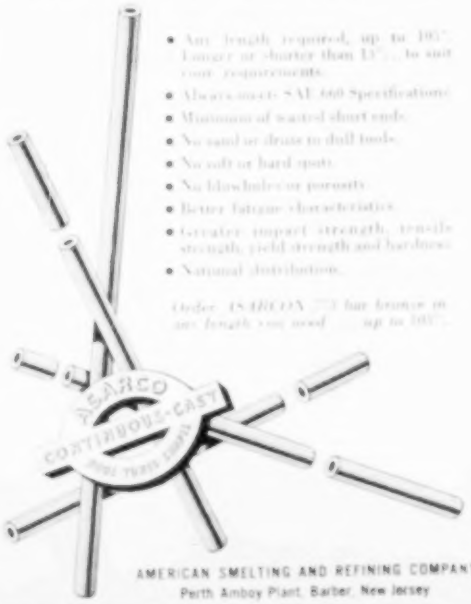
CHICAGO METAL HOSE CORPORATION
MAYWOOD, ILLINOIS
Plants at Maywood, Elgin and Rock Falls, Illinois

▼ REFER TO—Identify by IEN - 7255 if you write the maker ▼

Asarcon 773 BEARING BRONZE ...IN ANY LENGTH YOU NEED

- Any length required, up to 10'6". Longer or shorter than 13"... to suit your requirements.
- Always meets SAE 660 Specifications.
- Minimum of wasted short ends.
- No sand or drain to dull tools.
- No soft or hard spots.
- No blowholes or porosity.
- Better fatigue characteristics.
- Greater impact strength, tensile strength, yield strength and hardness.
- Natural distribution.

Order ASARCON 773 bar bronze in any length you need . . . up to 10'6".



AMERICAN SMELTING AND REFINING COMPANY
Perth Amboy Plant, Barber, New Jersey

▼ BREEZIT—Identify by IEN - 7256 if you write the maker ▼

▼ BREEZIT—Identify by IEN - 7257 if you write the maker ▼

for heating GASES, LIQUIDS, DIES, MOLDS, PLATENS, MOVING PARTS

GET THESE OUTSTANDING ADVANTAGES:

- EASY, LOW-COST INSTALLATION—Quickly installed with minimum labor and materials, often by your own men.
- DEPENDABLE, ECONOMICAL OPERATION—Heat where it's needed—around-the-clock, day-in and day-out.
- PRECISE AND EXACT TEMPERATURE CONTROL—Measured heat up to 1000° F., rapidly reached, accurately controlled.
- MINIMUM ATTENTION—Manually or thermostatically regulated heat that needs no "dandling" attention.

Send for CATALOG 50

EDWIN L. WIEGAND CO., 7506 THOMAS BOULEVARD, PITTSBURGH 8, PA.
See Chromalox Radiant Heaters Advertisement, Page 3

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

▼ BREEZIT—Identify by IEN - 7258 if you write the maker ▼

Aerovent FAN

EXTENDED SHAFT FAN

KEEPS MOTOR OUT OF AIR STREAM

Extended shaft may be water jacketed, if desired. Sizes 12" to 44". 2, 4- or 6 Blades.

For industrial applications where it is desired to keep the motor out of the air stream to meet Underwriter's specifications for exhausting explosive vapors. It protects the motor from high temperature air, corrosive fumes, or combination of obnoxious fumes and moisture.

Certified Ratings — PEMA

Other Models

Direct Connected, Man Cooling, Duct Type, Belt Driven, Pulley Driven. Sizes 12" to 144".

Write today for
ENGINEERING BULLETIN

AEROVENT FAN CO., INC.

ASH AND BROWN STREETS, PIQUA, OHIO
Competent Sales Engineers in Principal Cities

▼ BREEZIT—Identify by IEN - 7259 if you write the maker ▼

PRESS . . For selective punching of hole patterns in structural parts

Source: BEATTY MACHINE & MFG. CO.
Oak & 150th St., Hammond, Ind.

Rating is 200 ton for this new punch press or hole tester of one ton pressure, 15/16 in. through 9/16 in. plate. The press is clutch controlled for 2½ in. stroke and is equipped with guided punch assembly with operator at one secure on the right-hand side. The construction shows a set up to well-punch channels and beams and the flanges of angles secured in pairs.

Distance between the housings measures 32 in. box. The bed or table is 32½ by 21 inches. The space measures 26 inches. Bed dimension right to left is 28 inches. From to back is 18 inches. Adjustable clamps and adjustable stops secure the work.

▼ BREEZIT—Identify by IEN - 7260 if you write the maker ▼

MARKING . . Carbide scriber to mark glassware and score to break it

Source: FISHER SCIENTIFIC CO.
715-19 Forbes St., Pittsburgh 19, Pa.

List price is $1.25

Tungsten carbide is employed in the point of a new pencil scriber for use on glassware. The point is mounted in a knurled steel shank and is protected by a cap so the unit can be carried in a pocket.

▼ BREEZIT—Identify by IEN - 7261 if you write the maker ▼

TIRE . . Cushion rubber design for industrial trucks, plain, non-skid

Source: MONARCH RUBBER CO.
25 Lincoln Park, Hartville, Ohio

Mono-Cushion trade name new rubber tire permanently vulcanized to its steel rim, for use on industrial trucks. The tire cushions truck and load, minimizes wear due to shock in travel movements. It is made in twenty-two sizes ranging from 13 by 3½ by 8 in. to 22½ by 8 by 17¾ inches. Twenty of the sizes are available in non-skid tread only. The other two, which include the smallest and one measuring 16½ by 6 by 11¾ in., can be supplied also in plain tread. Load-carrying capacity ranges in the sizes named from 1,240 to 5,900 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ BREEZIT—Identify by IEN - 7262 if you write the maker ▼

SAFETY EQUIPMENT FOR ALL INDUSTRIES

Designed for MAINTENANCE MEN PAINTERS AND WINDOW WASHERS

IPCO WINDOW PLATFORM

SPECIAL FEATURES

- Held firmly in position by adjustable steel tube on inside of window.
- Each bracket tested for 800 pounds.
- Collapses compactly . . . Weighs only 32 pounds.

Approved by the Pa. Dept. of Labor and Industry. Provides security and saves time for personnel working on outside of windows . . . Equalization of stresses and anchorage combine in providing absolute stability.

Write for Bulletin F-80

IPCO *Safety Equipment for all Industries*

INDUSTRIAL PRODUCTS COMPANY

2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

▼ BREEZIT—Identify by IEN - 7263 if you write the maker ▼

Bundling Machine for small-size packages

Machine bundling makes large savings, for it eliminates the need for costly cardboard boxes, reduces material costs from 25 to 80%. Also conserves storage space and affords substantial savings on labor and shipping costs.

The Model F-10 J, illustrated, is only two-thirds the size of our widely used Model F-10 machine, and is lower in cost.

Bundles packages in a variety of combinations and is easily adjustable for various sizes.

Write for literature on the Model F-10 J.

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK · CHICAGO · BOSTON · CLEVELAND · ATLANTA · DALLAS · DENVER · LOS ANGELES · SAN FRANCISCO · SEATTLE · MEXICO, D.F.

▼ BREEZIT—Identify by IEN - 7264 if you write the maker ▼

cost reduction and greater production

the principal function of mechanical handling

The keen competitive characteristic of the automotive industry is common knowledge. Likewise that industry's ready acceptance of any device or system by which manufacturing costs may be reduced to obtain a price advantage.

It is significant that the cost conscious automotive industry, with its highly concentrated engineering, has consistently absorbed more MHS products than any other. Also that MHS conveyor systems have done much to aid this industry in bringing its cost and production to current levels.

Let MHS Engineers survey your production and handling operations.

MECHANICAL HANDLING SYSTEMS, INC.
4605 NANCY AVE., DETROIT 12, MICH.
Offices in Principal Cities

▼ BREEZIT—Identify by IEN - 7265 if you write the maker ▼

Announcing NEW Semi-Automatic PINES BENDING MACHINE

SAVES TIME, CUTS COSTS ON SHORT RUN PRODUCTION, AND MAINTENANCE WORK

SPECIFICATIONS
PINES SERIES 1400 BENDER

- Maximum Capacity—1" O.D. 16 ga. steel tube
- Maximum Radius of Bend—8½" to centerline
- Length of Tube—Up to 5 ft. standard
- Bending Speed—99 R.P.M.
- Working Height—35
- Overall Size (Floor Space)—3' x 7'
- Pressure—1000 P.S.I.
- Pump Motor—1 H.P.
- Pump—1 G.P.M. (Vickers)
- Optional—Adjustable guides . . . provision for any length of tube, needed for critical bends

Fast, Easy to Operate—Forms Smooth, Neat Bends Quickly

Eliminates many slow, tedious hand bending operations. Is especially designed to cut costs on work normally considered too variable for fully automatic equipment. Fast and easy for one man to operate. Hydraulic bending arm forms smooth, neat-looking bends quickly. Clamp and die contacts for sliding, direct are operated by hand toggle levers. Hand wheel provides immediate angle of bend selection. Typical production: 100 bends per hour on 1"-16 gage steel tube.

Ask for An Analysis of Your Bending Problems

Write today for free literature. Find out how a Pines Bender can be applied to your work. Ask for an analysis of your bending problems. There's no obligation.

PINES ENGINEERING CO., INC.
Specialists in Pipe Fabricating Equipment

BREVITY—Identify by IEN - 7266 if you write the maker

STOP PAYING THE PACKING TAX

Try

SYNTRON

"Replacement"

SHAFT SEALS

Syntron Seals provide the modern, economical method of eliminating leakage on centrifugal pumps, magnetos, etc. Self-adjusting — they provide fully automatic sealing. For water or oil or gases. Special seals for corrosive or abrasive liquids.

"The Seal with the long, long life"
Write Today

SYNTRON CO., 410 Lexington Ave., Homer City, Pa.

BREVITY—Identify by IEN - 7267 if you write the maker

WHATEVER YOU FASTEN . . .

OR ANY COMBINATION OF THESE MATERIALS

Chicago AUTOMATIC RIVETING

FASTENS IT RIGHT . . . AND FASTENS IT FAST

• In Chicago Automatic Rivet Setters from 1 to 4 tubular or split rivets are fed, inserted and clinched in a fraction of a second with each operating pedal release. Adjustment on some models permits handling different sizes of rivets. Riveting machine also adaptable for eyelets, grommets or drive screws.

FREE *Fastening Analysis*
Your output may be increased and costs reduced if you investigate. Send sample assembly and blue print.

Chicago Rivet

CHICAGO RIVET & MACHINE CO.
9602 W. Jackson Blvd., Bellwood, Ill. (CHICAGO SUBURB)
Tubular and Split Rivets In All Rivet Metals

BREVITY—Identify by IEN - 7268 if you write the maker

Send Coupon Today for Your FREE Copy

"WHY IT PAYS TO ANCHOR YOUR MACHINES WITH *UNISORB*®"

Here's the book that tells you how to

- Avoid destructive floor-drilling with UNISORB machine anchoring . . . the modern way that needs no bolts, no lag screws.
- Eliminate 50%-85% transmitted machine noise and vibration.
- Achieve a safe, dependable machine mounting that lasts for years and years *with no maintenance*.
- Save time, expense and confusion when installing new machinery or repositioning present machinery.

The FELTERS Co.
210-1 SOUTH ST.
BOSTON 11, MASS.

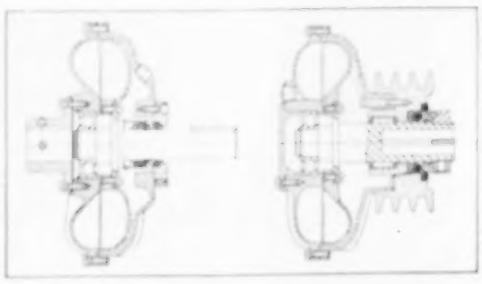
Gentlemen:
Please send me free copy of "Why It Pays to Anchor Our Machines with UNISORB."

NAME
COMPANY TITLE
STREET
CITY & STATE

BREVITY—Identify by IEN - 7269 if you write the maker

DRIVE . . Hydraulic coupling, 1½ to 15 hp., mounts sheave, shaft

Source: LIQUID DRIVE CORP.
410 Hadley, Holly, Mich.



Two designs, one with an output sheave and the other with a shaft, are included in the company's new line of hydraulic couplings. Both are available in two output ranges from 1½ hp. at 1,500 rpm. to 5 hp. at 1,800 rpm. The smaller units, Type 210, measure 10¼ in. in diameter by 5⅝ in. in housing length. The larger assembly is 12⅝ by 6⅝ inches.

The coupling mounts on a motor shaft to drive the inner portion of the impeller in one case and the outer housing and its part of the impeller in the other. Characteristic of the sheave-equipped assembly is that the sheave rides over the position occupied by the motor shaft so the drive itself does not overhang. The action permits the motor to pick up its load gradually. It cushions shock and limits overload in non-reversing equipment drive service.

The rotating movement of the drive side of the impeller forces the oil contained in the housing to impinge against the vanes in the driven side. This results in rotation in the driven side in ratio to the force imparted to the oil and the quantity of this oil in the coupling housing.

BREVITY—Identify by IEN - 7270 if you write the maker

TRUCK . . Engine drive fork lift, 2 to 4 ton, rides over uneven ground

Source: YALE & TOWNE MFG. CO.
Haldeman & Roosevelt, Philadelphia 15, Pa.

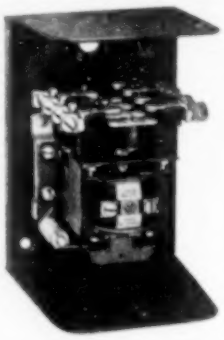
Yard King trade names new line of engine-driven fork lift trucks with mounting on pneumatic-tired wheels to operate where ground surfaces are rough and uneven. Yard-weight decks construction conditions are examples. The engine drive employs a Chrysler clutch and dual transmission to cushion shock, increase speed and protect the engine against wear. Lift and tilt mechanisms are by hydraulic pressure supplied by a pump on the engine. Lift movement is 12 114 in. in the lowest, and 6 in. the line and to 124 in. in the maximum. Overhead capacity ranges up to 85 inches. Travel is limited to 12 mph. by a governor on the engine. Lift motor runs at from 20 to 40 fpm.

Bulletins [illegible] in [illegible] 4 pages each, illustrated and describing specific types from the line, actually upon request.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

BREVITY—Identify by IEN - 7271 if you write the maker

Bulletin 700 A-C Solenoid Relays



- Silver-alloy contacts need no maintenance
- "N. O. or N. C." universal contactor

Bulletin 700 A-C Solenoid Relays offer a versatile line of small solenoid-operated switches for applications requiring compact contactors of unfailing dependability. Available in single- and multiple-pole constructions up to and including a twelve-pole unit. Universal types can be changed from normally open to normally closed by merely changing connections. Write for complete information. Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

BREVITY—Identify by IEN - 7272 if you write the maker

you have the best

when you install the reliable

WALDRON *advanced Gear Type* COUPLINGS

To prove it just compare these "Series A" jobs with any other coupling of their type. Note the one-piece steel forged cover sleeve, the ample lining up surfaces, the absence of trouble making parts, the compact design and similar features. Our Catalog 57 will give you details. Write for it.

MANUFACTURED BY
JOHN WALDRON CORPORATION
New Brunswick, New Jersey
Sales Representatives in Principal Cities.

BREVITY—Identify by IEN - 7273 if you write the maker

MARMAN UNIVERSAL

a better clamp . . . all around

easy: Easy to install or remove without tools—easy to stock since one size is usable down to a minimum diameter of 11/16". Easy to fit contours to all shapes.

vibration proof: Self locking screw prevents loosening of clamps and slipping under all conditions.

corrosion resistant: Stainless steel band and saddle meets U. S. Navy requirements for corrosion resistance.

strong and dependable: Heat treated steel alloy screw—wide band—stainless steel band clamp can be used over and over.

A better all around clamp

FOR INFORMATION WRITE DEPT. CE

MARMAN PRODUCTS CO. INC.
940 W. FLORENCE AVE., INGLEWOOD, CALIF.

BREVITY—Identify by IEN - 7274 if you write the maker

AMAZING, NEW, WATERPROOF, GLASS-REINFORCED PAPER

GLAS-KRAFT

PROVIDES POSITIVE ALL-WEATHER PROTECTION

GLAS-KRAFT is one of the strongest, toughest, most flexible, reinforced papers known. It is the new waterproof reinforced paper sensation. Available in 48 to 84 in. widths, specially coated and also extra coated one side with heat seal for all-directional waterproofness. Varies are waterproof, bonded under heat and pressure between two plies of Glas-Kraft Kraft.

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- Packing & Shipping—Unitized loading of freight cars. As crate liners and shrouds for export and domestic shipping.
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Investigate Glas-Kraft when you want an industrial paper to perform where others fail. Available in rolls up to 96 inches in width. Three grades. We also manufacture the revolutionary new Glas-Tape and Glas-Kraft Sealing tape for the corrugated container industry.

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GLAS-KRAFT, Inc.
LONSDALE, RHODE ISLAND

Write today for sample swatches and prices.

BREVITY—Identify by IEN-7275 if you write the maker

In AIR CYLINDERS

It's MUSCLE you need!

AIR CYLINDERS

Are *all* Muscle. No Useless Frills! JLE Air Cylinders invite cost comparison . . . tell us the size cylinder you're interested in or are using and we'll give you JLE's cost figures for comparison.

JLE Air Cylinders are made to any stroke in standard bore sizes from ½" to 10" — Top operating pressure 150 lbs. per sq. in. Single or double acting. Choice of four standard mountings and of end cushioning.

Distributor Territories Open . . . Best Ones Going Fast Write Us Your Qualifications NOW!

JAMES L. ENTWISTLE CO.

430 CHURCH STREET • PAWTUCKET, RHODE ISLAND

BREVITY—Identify by IEN-7276 if you write the maker

SECURITYFLEX

the tough portable cord

- *It won't kink.*
- *Long life under continuous flexing.*
- *Insulation resists heat.*
- *Neoprene jacket licks oil, water, abrasion, sunlight, weather.*

Give your tools the cord that's tough — give them Securityflex*. Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.

*Reg. U. S. Pat. Off. 50341 Rev.

The right cable for the job

ANACONDA® WIRE AND CABLE

BREVITY—Identify by IEN-7277 if you write the maker

HIGH EFFICIENCY

RIGHT ANGLE DRIVES

PHILADELPHIA SPIRAL-BEVEL-HELICAL SPEED REDUCERS

Dependable . . . for transmitting power at right angles, either horizontally or vertically. Single, double and triple reductions with standard ratios from 1.5 to 1 up to 218 to 1. Single reduction type employs only spiral bevel gears. Helical gears used on second and third reductions of double and triple types. Single reduction unit for example is 98% efficient—so often smaller frame size motors can be used than with other comparable types.

Bulletin 200 gives complete details . . . write on your business letterhead

PHILADELPHIA GEAR WORKS, Inc.

ERIE AVENUE and G STREET, PHILADELPHIA 24, PA.

NEW YORK • PITTSBURGH • CHICAGO • HOUSTON

In Canada: William and J. G. Greey Limited, Toronto

BREVITY—Identify by IEN-7278 if you write the maker

PUMP . . Gear type hydraulic, 11 sizes, 1.4 to 46.8 gpm., 1,000 lb.

Source: ADEL PRECISION PRODUCTS CORP. 10855 Van Owen St., Burbank, Calif.

The gear impellers in the new pump mesh as shown in the illustration. The gears are keyed to the shaft with a tight fit and are secured to the shaft. Thus no set screws can become loose and cause trouble. The shaft rides in bronze bushings in the case. Two bronze gears and shafts are included. A ball bearing on the drive shaft takes radial and axial loading. A shaft seal is included.

The pump is designed to supply hydraulic pressure to 1,000 lb. with normal operation at 1,800 rpm. and oil as the pressure medium. Oil that is trapped in the pump supplies the required lubrication. Eleven sizes in the line rate 1.4 to 46.8 gpm.

Smallest unit measures 6⅛ in. in overall length including its 2-in. shaft extension. Base of the mounting bracket to the shaft center is 2¾ inches. Ports are threaded for ¾ in. pipe. The largest pump measures 10 in. in length, also with a 2-in. shaft extension. Its center is 3¾ in. above the mounting base. The ports are threaded for 1½ in. pipe.

BREVITY—Identify by IEN-7279 if you write the maker

PAINTING . . White enamel for damp or dry walls is odorless

Source: WILBUR & WILLIAMS CO. 41-45 Leon St., Boston 15, Mass.

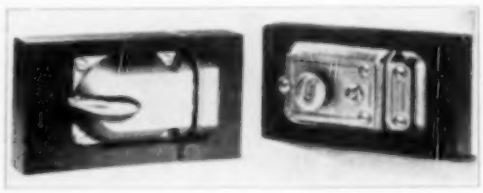
Packaged in quarts, gallons

New form of the company's previously developed Damp-coat enamel is entirely odorless, can be applied in the presence of food without imparting any taint. The film dries dust-free in 3 hours following application by brush or spray. Ink, pencil marks, lipstick will wash off. Color is white.

BREVITY—Identify by IEN-7280 if you write the maker

LOCK . . Lever operated design holds in open and closed positions

Source: YALE & TOWNE MFG. CO. 198-202 Henry St., Stamford, Conn.



New design of the company's No. 36 nightlatch is shown to the left in the illustration in comparison to the original design on the right. The new unit is smooth bronze finish. It has recessed screw holes. It is operated by a lever in place of the previous knob and it has no locking button. Price has not been changed as compared to the previous unit.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

BREVITY—Identify by IEN-7281 if you write the maker

HANNIFIN

HYDRAULIC

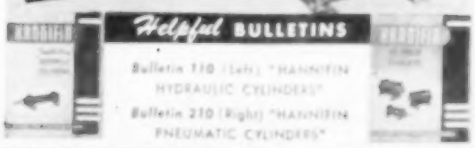
Everything you want in **CYLINDERS**

Here's help for busy machine designers and plant operating engineers. You can save time and money right from the start by checking with Hannifin on all of your hydraulic and pneumatic cylinder requirements. *The Hannifin line is complete!*

Hannifin sets the standard for quality! Perfected, tested designs; finest quality construction. Test-proven packings! Finest seals! Proper finishes! Interchangeable parts! Cylinders "Tru-Bored" and honed; rods ground and polished. For complete information, see your local Hannifin representative, or write.

HANNIFIN CORPORATION
1107 S. Kilbourn Ave.
Chicago 24, Ill.

PNEUMATIC

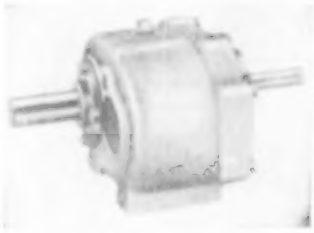


Helpful **BULLETINS**

Bulletin 110 (Left) "HANNIFIN HYDRAULIC CYLINDERS"

Bulletin 210 (Right) "HANNIFIN PNEUMATIC CYLINDERS"

BREVITY—Identify by IEN-7282 if you write the maker



2-speed automatic TRANSMISSION

. . used to supplement constant-speed and multi-speed motors . .

. . with the advantages of providing broader range of speeds, and special ratios not obtainable electrically . . In the five horsepower (illustrated) model, with a 1750 rpm input speed, the low limit of reduction is 6.31 to 1 but any pre-selected ratio, from direct motor speed to this low limit, is obtainable . . WESTERN Two-Speed Automatic Transmission are built to handle 5, 10, 15, 20, 25 and up to 50 horsepower motors . . *Send for complete information.*

up to 50 h. p. WESTERN TRANSMISSIONS

For Machining Lathes, Milling Machines, Shapers, Turret Lathes, Radial Drills, Borers, Ball Cutters, Gear Cutters, Die Sinkers, Boring Mills, etc.

WESTERN MANUFACTURING CO. 1444 SCOTTEN • DETROIT • MICHIGAN

BREVITY—Identify by IEN-7283 if you write the maker

SPRACO NOZZLES

Write for NOZZLE CATALOG *to*

SPRAY ENGINEERING CO.

110 CENTRAL STREET • SOMERVILLE 45, MASS.

BREVITY—Identify by IEN-7284 if you write the maker

PLATECOIL

Replaces Pipe Coil

FOR HEATING, COOLING OR DRYING

PROVIDES (4) OUTSTANDING SAVINGS

1. More Prime Surface for More Efficient Heating.
2. Develops Quick Heat for Quick Starts . . (As Much as 50% Faster Than Pipe Coil.)
3. Takes Half the Space, Weighs Half as Much as Pipe Coil.
4. Platecoils Are Easily Cleaned or Replaced in Minutes . . No Downtime . . No Tank Dumping.

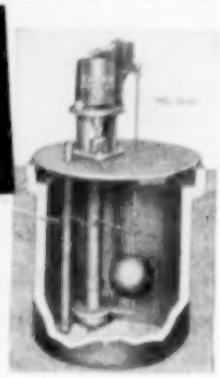
Take advantage of the complete engineering assistance offered by Kold-Hold to help you with your heat transfer problems.

Send for complete technical manual and descriptive Bulletin No. P56

PLATECOIL
Division
KOLD-HOLD MFG. CO.
LANSING 4, MICHIGAN

BREEITT—Identify by IEN-7285 if you write the maker

Eliminate DAMAGING DRAINAGE WATER . . .



Pay enough for a dependable Sump Pump . . . for that is the best way to eliminate costly damage caused by unexpected seepage or drainage water.

Because Taber Sump Pumps are engineered and built, for emergency use, not just to meet the lowest competitive price, you will secure the utmost in insurance against drainage or seepage water damage. Units built in capacities up to 750 g.p.m.

Write for Complete BULLETIN S-135

Please see Industrial Directory or Thomas' Register

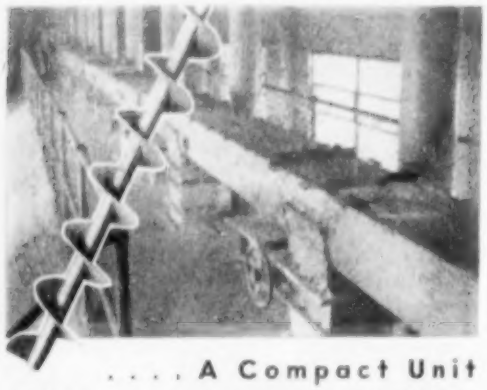
Taber Pump Co.
158 Elm St.
Buffalo 5, N.Y.

Est. 1859

Pump	G.P.M.	Max. Head in Feet	Pump	G.P.M.	Max. Head in Feet
No. 1	10	20	No. 4	20	15
No. 2	15	18	No. 4 Heavy	18	25
No. 2 Heavy	15	18	No. 5	40	20
No. 3	30	18	No. 5 Heavy	40	20
No. 3 Heavy	30	18	No. 6	50	15

TABER SUMP PUMPS

BREEITT—Identify by IEN-7286 if you write the maker



. . . . A Compact Unit

JEFFREY SPIRAL CONVEYOR

Covered type shown handles dusty materials. No return strand. Capacities vary with size of conveyor. Six types—Sectional, Helicoid, Mixer, Cut Flight, Ribbon and Cast Iron. Uniform strength, perfect fit, true alignment. Catalog No. 801 describes many uses. Send for it.

JEFFREY

THE JEFFREY MANUFACTURING CO.
914 Fourth St., Columbus 16, Ohio

BREEITT—Identify by IEN-7287 if you write the maker

Direct-to-you shipment of Bronze Bar Stock *Cuts Bearing Costs!*

Stocks of N.B.M. "Tiger" Bronze now located for fast delivery . . . the bar size you want when you want it.

More and more plant engineers—with an eye on bearing costs—are switching to longer-wearing, anti-frictional, easy-to-machine "Tiger" Bronze. It's also one alloy that has every requirement for longer, lower cost bearing service. Tell the company bearing man, interesting, bronze . . .

FREE BULLETIN . . .

Write Today For Information and Prices!

American Brake Shoe Company — NATIONAL BEARING DIVISION

BREEITT—Identify by IEN-7288 if you write the maker

VALVE . . Bellows operated throttles steam for temperature control

Source: FARRIS STACON CORP.
550 Commercial Ave., Palisades Park, N. J.

New design is announced by the company with resumption of manufacture of the Stacon temperature regulating valve formerly made by Thomas A. Edison. The new unit is available in ¾ to 1½ in. sizes for direct operation and from 2 to 6 in. for pilot operation in single-seated valve design for pressure to 150 lb. and controlled temperature to 450 deg. F. Operation is accurate within 1 per cent. The 1½ in. valve measures about 13½ in. in overall height.

Steam entering the inlet side of the valve surrounds and heats an upper power bellows and a lower compensating bellows. The upper bellows expands through a valve and a bracket surrounding the lower bellows to carry the valve disc. The lower bellows is supported on an adjustable post mounted in the base of the valve body to extend upward through the seat. The interior of the upper bellows is connected to a capillary tube extending 8 ft. to a temperature-sensitive bulb. Tube and bulb are filled with a volatile liquid.

Rising temperature in the bulb forces some of the liquid through the tube and into the heated bellows. The heat "vaporizes" the liquid forming a vapor. The resulting pressure rise expands the bellows to move the valve disc toward the seat. At the same time the lower closed bellows takes a position depending on its pressure, vapor pressure which will be a function of the steam temperature in the valve. Thus a balance in throttling position will be reached between valve and ambient heat at a process and temperature in the steam being supplied through the valve.

BREEITT—Identify by IEN-7289 if you write the maker

BATTERY . . Wet type primary unit to be replaced after 1,000 amp. hours

Source: THOMAS A. EDISON INC.
50 Belmont Ave., Bloomfield, N. J.

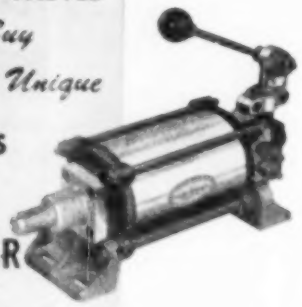
Carbonaire (trade name) a new air-depolarized primary battery of the add-water type to supply low voltage current for operation of railroad signal lamps, industrial and commercial audible and visual electric signals, communication equipment, time clocks, instruments requiring a dependable low-voltage dc source. The battery rates 1,000 amp. hr., measures 5½ to 7¾ by 9½ in. in overall dimensions.

Assembly is in a molded hard rubber case. It will supply sufficient current to operate a signal lamp in a railroad switch signal for ten months to a year with occasional inspection.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

BREEITT—Identify by IEN-7290 if you write the maker

NO EXTRA VALVES *To Buy With This Unique* Bellows AIR CYLINDER



Here — in an air cylinder complete in itself. Valve, valve operating lever and piston stroke speed controls are built-in — integral parts of the Air Cylinder. There are no extra valves or lines. No cumbersome piping to install. Only one air connection is required which may be flexible hose.

Known everywhere as the Bellows Air Motor, this compact power unit provides new ease in the use of air.

APPLY TO THE NEAREST

The Bellows Co.
AKRON, OHIO

BREEITT—Identify by IEN-7291 if you write the maker

CESCO's Newest Safety Spectacle

NOW AVAILABLE in 2 Eye Sizes . . .

42 x 45 mm and 45 x 48 mm

LOOK at these exceptional features

- Recommended for frontal protection and where non-metallic equipment is used.
- Frames made of non-flammable, durable plastic.
- Attractive appearance — smart and stylish as personal glasses.
- Lightweight, comfortable to wear — improved nose bridge provides greater bearing surface, eliminating pressure.
- Correct fit — three bridge widths. Flexible cable temples hold spectacle in position at all times.

Be sure to have a copy of the latest CESCO CATALOG

For complete information on Cesco's newest safety spectacle, see your Cesco distributor or write . . .

CHICAGO EYE SHIELD COMPANY
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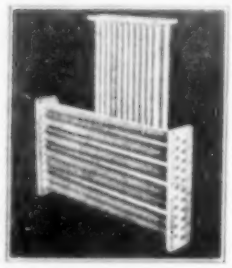
Offices in Atlanta, Boston, Buffalo, Cincinnati, Cleveland, Dallas, Detroit, Houston, Indianapolis, Jackson, Jacksonville, Kansas City, Los Angeles, Memphis, Minneapolis, Pittsburgh, Seattle, St. Louis, St. Paul, Toledo, Tulsa

CESCO FOR SAFETY

BREEITT—Identify by IEN-7292 if you write the maker

ROME HELICAL-FIN TUBING

Over 90 sizes in Production



Rome extended surface Helical Fin Tubing is a highly efficient — economical surface for heat exchanging work. It is supplied in either straight lengths, coils, or U bends with or without threaded and connections, or it may be used with standard fabrication sections. It is used for:

- Water Cooled Refrigeration Condensers
- Air Cooled Refrigeration Condensers
- Steam Condensers
- Dry Cleaning Fluid Recovery Condensers
- Air Compressor Intercoolers and Aftercoolers
- Oil Coolers for Diesel Engines
- Fan Type Air Heating Coils
- Fan Type Air Cooling Coils
- Fan Type (Suspended) Unit Heaters
- Refrigeration Evaporators and Display Case Coils
- Turbine Air Surface Coolers
- Room Heating Convectors (Concealed Radiation)
- Diesel and Truck Engine Cooling Radiators
- Railway Diesel Engine Cooling Systems

Rome Helical-Fin Tubing is used and specified by nearly all large Nationally known manufacturers of heat exchanging equipment

ROME-TURNEY RADIATOR COMPANY

Also of Refrigeration Condensers — Concealed Copper Radiation — Blast Air Heating and Cooling Coils and Other Trender Equipment

200 EAST FRONT STREET ROME, N. Y.

BREEITT—Identify by IEN-7293 if you write the maker

O.K. GANG SLITTER KNIVES *for longer service*

Made in O.K. Extra Air Hard Chrome or Standard Tungsten Steel. Precision ground to . . . close tolerances on thickness, diameter and bore. Extreme high finish. SPACERS for above in hardened or unhardened, plain ground to same tolerances as knives. We make other cutters similar to the one shown for slitting steel, other light metals, brass, fibre, paper, cloth, film, etc.

O.K. ROTARY SHEARS & BLADES *for maximum toughness*

The **OHIO KNIFE** *Co.*

CINCINNATI 23, OHIO, U. S. A.

CLIP AND MAIL TODAY

THE OHIO KNIFE CO., CINCINNATI 23, OHIO

Gentlemen: Please send without obligation specific data on knives I have checked.
☐ CIRCULAR KNIVES ☐ SHEAR BLADES
COMPANY
NAME
ADDRESS

BREFITT—directly to IEN - 7294 if you write the maker

New Robertshaw 3 in 1 Control

FOR ELECTRIC RANGE OVENS

1 AUTOMATICALLY
Cuts in two oven elements for quick preheating

2 AUTOMATICALLY
Cuts out top element shortly before oven reaches preset temperature minimizing overshoot

3 AUTOMATICALLY
Cuts in lower element and maintains oven temperature on that circuit only

Designed to meet the needs for automatic regulation of electric range ovens or any appliance with similar control requirements. Thermostat and automatic switching mechanism in one compact, easy-to-install case. One of three models. Write for complete information.

In home and industry, EVERYTHING'S UNDER CONTROL

Robertshaw
THERMOSTAT DIVISION
ROBERTSHAW-FULTON CONTROLS COMPANY
YOUNGWOOD, PENNSYLVANIA

BREFITT—directly to IEN - 7295 if you write the maker

There's profitable reading for you in the NEOPRENE NOTEBOOK

✓ New products
✓ New methods of reducing maintenance costs
✓ New solutions of production problems
✓ New improvements on old products

Put your name on our mailing list now for your FREE subscription

E. I. du Pont de Nemours & Co., Inc.
Rubber Chemicals Division, D-8, Wilmington 98, Delaware
Please send me free issues of the Neoprene Notebook

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Firm _____
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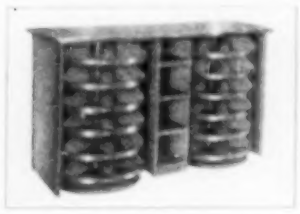
NEOPRENE
The rubber made by Du Pont since 1932
DU PONT
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

BREFITT—directly to IEN - 7297 if you write the maker

STORING . . Counter-bin assembly provides 72 compartments for supplies

Source: FRICK-GALLAGHER MFG. CO.
248-52 S. Broad St., Philadelphia 2, Pa.



Rotabin Counter is a new assembly of steel counter measuring about 75 by 27 by 47½ in. and two vertical sections of six bins mounted rotating bins each 28 in. in diameter. Each of the center bins can be rotated independently of the others and contains 6 compartments. In the center is a sectioned compartment for additional supplies. Finish is in baked silver green to match other units available.

BREFITT—directly to IEN - 7298 if you write the maker

MAGNET . . Alnico, cast to shape, specified overall sizes to 6 inches

Source: INDIANA STEEL PRODUCTS CO.
47 Thomas St., Valparaiso, Ind.

Data sheet available on request

New technique in manufacture for the company of a most 2 permanent magnet material has resulted in development of a material on which the case-hard case, guaranteed 3½ mil, has Rockwell hardness of 60 or more as compared with its previous of 45 Rockwell. As its principal trade name the material is a dispersion-hardened alloy of aluminum, cobalt, copper, iron and nickel that is cast to shape and then is annealed at a controlled rate from normalizing temperatures to a strong magnetic field to produce matched permanent magnets, properties on a given preferred axis.

The material is hard and brittle. It is finished as required by grinding with fine-grained of the Case of coating. Shrinkage is .020 to .040 per inch. Tensile strength is about 5,000 psi.

BREFITT—directly to IEN - 7299 if you write the maker

SAWING . . Hand keyhole unit, blade turns and locks in the handle

Source: MILLERS FALLS CO.
55-59 Wells St., Greenfield, Mass.

No. 525 Rotatable Blade designates new keyhole saw in which a thumb nut in the handle is loosened to permit turning the blade chuck to any of eight positions in a complete circle. The positions can be locked by tightening the nut.

The blade is a tapered nail measuring 11¼ in. in length. It is made of the company's Tuf-Flex steel with 10 teeth per inch. Other blades with 7 or 24 teeth can be interchanged in the handle. Overall length is 15½ inches. List price is $2. Extra blades add 50 cents each.

. . . All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREFITT—directly to IEN - 7300 if you write the maker

Stanzoil

Light Weight RSW-13's

Tough, Sheer . . . Sure Grip on Oily Parts

These new improved light weight Stanzoil RSW-13's are designed especially for handling small parts in testing and assembly, food products packing, etc. Shaped to fit the fingers naturally in gripping position, more hand comfort over long periods of wear. Finger tip gauge cut to .018 for greater sensitivity. Non-slip grip aids precision workers, speeds assembly. Your plant shows more productivity when employees aren't fumbling with thick, unwieldy rubber gloves. Write today for complete Stanzoil catalog.

Southern Rubber Division
The Pioneer Rubber Company
6350 Tiffin Road Willard, Ohio, U.S.A.
Los Angeles, California

STANZOIL PIONEER
OVER 30 YEARS OF QUALITY GLOVE MAKING

BREFITT—directly to IEN - 7301 if you write the maker

SQUARE D OIL-TIGHT CONTROL UNITS because-

Proven Oil-tight and coolant-tight by severe tests involving millions of operations.

Flexible. Pushbuttons, selector switches and pilot lights available in wide range of combinations.

Durable. Metal buttons, melamine contact block and double break silver contacts insure long life.

Write for Bulletin 9001 F, Square D Company, 4041 N. Richards Street • Milwaukee 12, Wisconsin

SQUARE D COMPANY

BREFITT—directly to IEN - 7302 if you write the maker

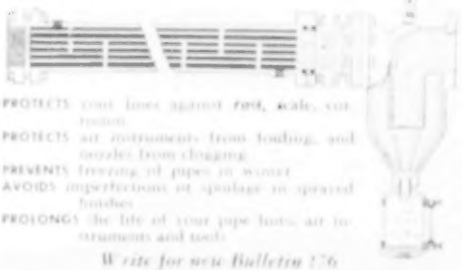
You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

with **ADAMS** Aftercooler and Cyclone Separator

• Reducing compressed air temperature to within 10° of the cooling water, Adams equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion.
PROTECTS air instruments from fouling, and nozzles from clogging.
PREVENTS freezing of pipes in winter.
AVOIDS imperfections or spoilage in sprayed finishes.
PROLONGS the life of your pipe lines, air instruments and tools.

Write for new Bulletin 176

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

BREFITT—directly to IEN - 7303 if you write the maker

Fewer wires for Weyerhaeuser!

. . . space saved . . . installation cost lowered . . . all-weather dependability assured with

OKOLITE-OKOPRENE

SELF-SUPPORTING AERIAL CABLE

At Longview, Wash., the new MgO sulphite recovery and new sulphate pulp processing plants of the Weyerhaeuser Timber Company typify the advantages of self-supporting cable for industrial power distribution. Here, Okolite-Okoprene Self-Supporting Aerial Cable serves between a new generating plant and an old one. With Okolite-Okoprene Self-Supporting Cable, well-evident space economy is matched by installation economy as it requires no separate stringing. Further savings result from the long life of this shock-safe all-weather cable assembly.

Safer and easily handled, the cable is fully insulated with Okolite high-voltage insulation and heat-resisting insulation and protected with weather-resistant non-conducting Okoprene. For 52-page Self-Supporting Cable book, available to electrical engineers and plant executives, please address The Okonite Company, Passaic, N. J.

THE BEST CABLE IS YOUR BEST POLICY

OKONITE *insulated wires and cables*

BREVITY—Identify by IEN - 7304 if you write the maker

Turn to **INGERSOLL** *when you need—*

Special Steels

FOR Special *USES*

INGERSOLL

Alloy Steels • Armor Plate • Clutch Plate Steels
Tillage Steels • Soft Center Steel • Shovel Steels
Knife Steels • Saw Steels (including Hack Saw
Blade Steels • TEN-CROSS Steel • Stainless Steels
INGRCLAD Stainless Clad Steel

INGERSOLL STEEL DIVISION

Borg-Warner Corporation, New Castle, Indiana
Plants: New Castle, Indiana; Chicago, Illinois; Kalamazoo, Michigan

---

BREVITY—Identify by IEN - 7305 if you write the maker

THREE MACHINES IN ONE!

The basic unit of the Vonnegut Abrasive Belt Grinding and Polishing Machine is readily adaptable to lathe, swing and floor stand applications. The lathe application (shown) is ideal for the kind of polishing which is commonly done by hand . . . and for light cylindrical grinding in the many shops (perhaps yours) where everyday requirements for this type of work do not justify investments in heavy duty cylindrical grinders. Eight-page bulletin showing and describing this unique, rugged, economical "little giant" in its three practical applications—lathe, swing and floor stand—is yours for the asking. Specify Bulletin No. Sixty-Two.

VONNEGUT MOULDER CORPORATION
1027 MADISON AVENUE • INDIANAPOLIS 25, INDIANA

BREVITY—Identify by IEN - 7306 if you write the maker

PLUG IN

right at the load

15 outlets in each 10-ft. section of FYR-FLEX-A-POWER give you unmatched flexibility in electric power distribution.

Wherever the load is—there's an outlet. The power system always accommodates the load arrangement.

This prefabricated busway for 225-1000 amp. 600 volt secondary feeder systems is easily installed . . . and can be relocated with practically 100% re-use of materials.

Write for Bulletin Ten-4. THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, Plainville, Conn.

TRUMBULL (T) ELECTRIC

BREVITY—Identify by IEN - 7307 if you write the maker

TACHOMETER . . Centrifugal design, three ranges, locks at indicated speed

Source: BOULIN INSTRUMENT CORP.
65 Madison Ave., Room 501, New York 16, N. Y.

Overall range is 0 to 30,000 rpm, or 0 to 25,000 fpm with the new Type 03 tachometer. Three intermediate ranges are available, at 500, 5,000 and 50,000 rpm, 250, 2,500 and 25,000 fpm. Each is selected by turning a knob on the housing face. The indicator needle advances on making a reading to its maximum point where the operator can press a button on the housing side to lock against retraction in order to hold the reading.

The mechanism employs a flyball governor and a polished-steel drive shaft to operate the mechanism. The governor is mounted in ball bearings. Reading is independent of the position in which the tachometer is held. Overall dimensions are about 6 by 3½ by 2¾ inches. Weight is 18 ounces. Packaging is in a carrying case with two pointed rubber tips, a 4-in. extension rod, a triangular steel tip, a concave rubber tip and a 6-in. rubber-tired wheel to measure in fpm. Accuracy is within 1 per cent of full scale. List price is $27.50.

BREVITY—Identify by IEN - 7308 if you write the maker

WELDING . . Automatic arc machine for flat and circular work, to 500 amp.

Source: LEADER WELDING & MFG. CO.
2416-20 Sixth St., Berkeley, Calif.

A **work positioner**, with power vertical-feed head on a radial arm, two electrodes and rubber also on the arm and an arc transformer-type power unit supplying 100 to 500 amp. for the automatic operation and 120 amp. for hand operations make up this new equipment. Operation is on 220 or 440 volt 60-cycle ac. A control circuit supports 110 volt ac.

The positioner mounts V-type rollers on two parallel shafts of which one shaft is connected to a Graham variable speed drive. Flanged pulleys can be positioned on those rollers to movement under the electrode. On one side of the positioner housing is a faceplate mounted to rotate and also for vertical quadrant adjustment through a 120-deg. arc. Stub shafts and other work-holding fixtures can be secured to this faceplate for variable-speed rotation.

Beneath the positioner shaft is a screening tray to catch flux and a crater mounted bin that runs out from the housing. A feeder can be added for flux to be empowered in submerged-arc welding applications of the machine.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 10

BREVITY—Identify by IEN - 7309 if you write the maker

Lift King TRUCK DRIVES LIKE A CAR...

gives you better handling by far

YALE THE YALE & TOWNE MANUFACTURING CO.
Roosevelt Boulevard • Philadelphia 15, Pa.
HAND LIFT AND POWER TRUCKS • HAND AND ELECTRIC HOISTS • INDUSTRIAL DIAL SCALES

BREVITY—Identify by IEN - 7310 if you write the maker

NO SPRINGS TO BREAK in the *Nutting* JACK IT'S ALWAYS DEPENDABLE

The Nutting jack is the ONLY jack operated without the gravity and leverage. With no springs to break, there is no danger of your whole jack-and-skid suddenly being out of service.

One lift truck and two dead skids cost about the same as two Nutting Jacks and twenty-seven skids. That's one reason why the Nutting Jack and Jack-Skid system can be work a money-saver in your plant. Material placed on semi-live skids is made mobile in a flash. The jack may be coupled to one skid, then uncoupled and coupled to another faster than the time it takes to tell about it.

Send for Bulletin 48-JS

Look in your classified phone directory for your Nutting representative, or write for Bulletin 48-JS. It will pay you to get all the facts on this superior Nutting Jack-Skid handling system.

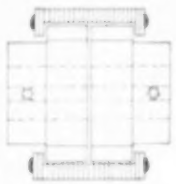
Nutting makes everything in floor trucks, wheels, casters.

NUTTING TRUCK AND CASTER COMPANY
2011 Division Street, Faribault, Minnesota

BREVITY—Identify by IEN - 7311 if you write the maker

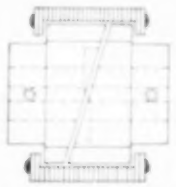
RAMSEY Flexible COUPLINGS

Available in two designs



STRAIGHT TYPE

Steel pinions cut straight, with chain acting as flexing member. Simple, sturdy, compact. Easily installed, aligned and disconnected. Made in eleven sizes from ½" bore for light loads, to 100HP capacity. Wide range of bore sizes in stock.



DIAGONAL TYPE

Steel pinions are cut diagonally; a patented feature that staggers the shear point of the chain pins to permit greater horsepower capacities and long life. Same advantages, range of sizes and stock bores as straight type.

Protective aluminum covers available for both types. Write for literature giving dimensions, capacities, list prices, etc.

RAMSEY CHAIN COMPANY, INC.
5052 BROADWAY, ALBANY, N. Y.

BREVITY—Identify by IEN - 7312 if you write the maker

MORE SPEED — MORE SUPPORT

The SOLUTION to SLOW Band Saw Production

INSTALL PADDOCK BALL-BEARING BAND SAW GUIDES

Needless blade breakage stops! More materials can be cut! Production increases! Safer for workmen! Interchangeable ball-bearing wheels, running with the blade, give strong, friction-free support to the working portion of the blades. Makes old band-saws work better—makes new band-saws more efficient! Write for details, prices and circular.

PADDOCK TOOL CO.
1418 Walnut Street, Kansas City 6, Mo.
Guide Makers Since 1920

Paddock BALL-BEARING BAND SAW GUIDES

▼ DIRECT!—Identify by IEN-7313 if you write the maker ▼

8-Page Condensed Catalog

shows Veeder-Root Counters for mechanical, electrical and manual operation. Write for a free copy.

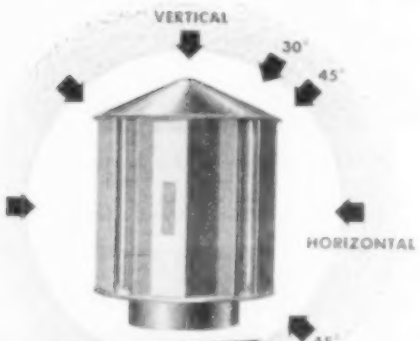
VEEDER-ROOT INC.
HARTFORD 2, CONNECTICUT

▼ DIRECT!—Identify by IEN-7314 if you write the maker ▼

CAUTION

To Ventilator Buyers

If you want to be sure of what you're getting when you buy ventilators, insist on *certified* capacity ratings based on tests made with wind blowing in *all* directions, as indicated below.



The First Scientific Improvement in Ventilators in over 50 Years!

Breidert Air-X-Hauster Type B

Only such tests can guarantee the capacities a ventilator will deliver under actual operating conditions! Don't be misled into buying on size alone. Insist on the correct size for the capacity required.

The Breidert Air-X-Hauster has been tested by Smith, Emery & Co. of San Francisco, Pacific Coast branch of the Pittsburgh Testing Laboratory, with wind directed at *all* angles shown above. It is the only ventilator on the market with published certified ratings based on such tests. Breiderts are extensively used on industrial, commercial and residential buildings all over the country, and on most types of pleasure craft and ships.

For detailed information and free Engineering Data Book on the Breidert, send the coupon.

G. C. BREIDERT CO.
3129 San Fernando Rd., Los Angeles 65, Calif.

Representatives in Principal Cities of the United States

G. C. BREIDERT CO., Dept. F
3129 San Fernando Road, Los Angeles 65, Calif.
Send name of nearest Breidert representative.
Send Free Engineering Data Book and other literature.
Name
Company
Street
City Zone State

▼ DIRECT!—Identify by IEN-7316 if you write the maker ▼

COOLING . . Drinking fountain for safe use in explosive atmosphere

Source: TEMPRITE PRODUCTS CORP.
45-49 Piquette Ave., Detroit 2, Mich.

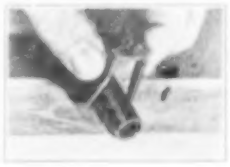
Type PB-10WE is a new drinking fountain for installation in plants such as those manufacturing paints, chemicals, and in refineries, refineries, grain processing where explosive atmospheres exist. Wiring and fittings are enclosed in explosion-proof housings and conduit. Rating is 10.5 gph. Hand and foot-operated flow controls are provided. Construction includes a stainless-steel top. Front and side panels can be specified in the same material should this be desired.

The water-cooled condenser 1 is equipped with a water valve having thermostat control. The compressor and motor 2 are hermetically sealed. The terminal box 3 is explosion-proof construction. The thermostat control and compressor relay are enclosed together at 4. A part of the conduit-enclosed wiring shown at 5.

▼ DIRECT!—Identify by IEN-7317 if you write the maker ▼

FASTENING . . Staple for tubing in 3/8, 1/2 and 3/4 in. tube sizes

Source: E. H. TITCHENER & CO.
65-69 Clinton St., Binghamton, N. Y.



Tube-Tite designed to give secure attachment of three sizes of tubing to a wall, ceiling or plate. Tube or the same size made of flat stock. The tubing is round. All three are packaged in vinyl bags holding 100 or 500 staples. Staples are made of high-carbon steel, tempered to 50 Rc and finished with a bright zinc plate.

▼ DIRECT!—Identify by IEN-7318 if you write the maker ▼

GRINDING . . Mounted wheels, nine each of sixteen sizes and types

Source: SCHUPACK SUPPLY CO.
7329-33 Cottage Grove Ave., Chicago 19, Ill.

List price is $28.50 for this new 144-unit assortment of mounted wheels and abrasive points on 1/8-in. steel mandrels. Sizes range from round points 1/16 in. in diameter to cups measuring 3/4 in. in diameter. The company has prepared an 8-page catalog listing the sizes, [illegible]

10 Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10

▼ DIRECT!—Identify by IEN-7319 if you write the maker ▼

for comfort . . .
working freedom
. . . and positive

DUST PROTECTION

IT'S THE *McDonald* **DUSTFOE RESPIRATOR**

- Light, comfortable, durable. Aluminum face piece cushioned to fit snugly. Clear plastic filter holder permits visual checking of filters

U. S. BUREAU OF MINES APPROVALS

Write for Information and Prices

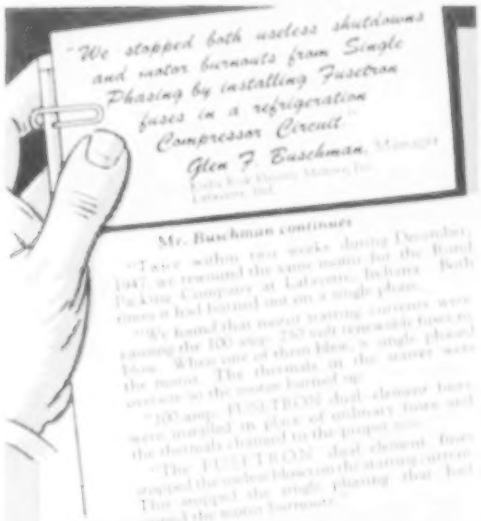
B. F. McDONALD CO.
Mfrs. and Distributors of Industrial Safety Equipment
5110 SOUTH HOOVER ST., LOS ANGELES 37, CALIF.
Other Offices in San Francisco & Houston

▼ DIRECT!—Identify by IEN-7320 if you write the maker ▼

Production engineers use "Clear Print" Wood Block Stamp Pads and Opaque Inks for the best clear, sharp, fast drying impressions. To cut down on lost shipments and returned assemblies because of poor identification use "Clear Print" for shipping case directions, item names and parts numbers. You are assured of permanently legible markings. Many bright visible colors available.

- For marking on non-porous materials such as:
- WOOD, METAL, GLASS, PLASTIC, RUBBER, PAPER AND MANY OTHERS.

▼ DIRECT!—Identify by IEN-7321 if you write the maker ▼



Mr. Buschman continues

"Twice within two weeks during December, 1947, we removed the same motor for the Rand Packing Company at Lafayette, Indiana. Both times it had burned out on a single phase.

"We found that motor starting currents were causing the 100 amp. 250 volt renewable fuses to blow. When one of these blew, a single phased the motor. The thermals in the motor were overcome so the motor burned up.

"100 amp. FUSETRON dual-element fuses were installed in place of ordinary fuses and the thermals changed to the proper size.

"The FUSETRON dual-element fuses stopped the useless blowouts the starting current. This stopped the single phasing that had caused the motor burnouts."

Fusetron Fuses

Gives All-Purpose 10 Point Protection

1 * Protect against short circuits.
2 Protect against needless blows and Fuses in circuits.
3 Protect against needless blows caused by excessive heating — fuses respond sooner in much cooler operation.
4 Provide thermal protection — for panels and switches against damage from heating due to poor contact.
5 Protect motors against burnout from overloading.
6 Protect motors against burnout due to single phasing.
7 Give DOUBLE burnout protection to large motors — without extra cost.
8 Make protection of small motors simple and inexpensive.
9 Protect against waste of space and money — permit use of proper size switches and panels.
10 Protect coils, transformers and solenoids against burnout.

* Fusetron type, low tab, renewable cartridge fuses are listed by the Underwriters' Laboratories.

DON'T RISK LOSSES

One needless shutdown
One lost motor
One burned-out solenoid
One destroyed switch
or panel . . .

May cost you far more than replacing every Fusetron fuse with a FUSETRON dual-element fuse.

Protect yourself by installing these in every set of fuse clips throughout the entire electrical system.

FUSETRON
TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION
BUSS

FUSETRON is a trade mark of
BUSSMANN MFG. CO.,
Division of McGraw Electric Co.,
University at Jefferson · St. Louis 7, Mo.

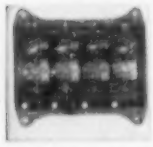
BRIEFITS—Identify by IEN-7323 if you write the maker

means wasted fuel

The designing engineer, the mechanic and the pilot, all find Cambridge Exhaust Gas Analyzers essential for developing, adjusting and operating internal combustion engines. These instruments make available continuous indication of air-fuel ratio of the mixture being supplied to the engine.

exhaust gas tester

determines the completeness of combustion in one or all cylinders. This rugged and accurate instrument is conveniently portable for field and shop use.



aero mixture indicator

is a flight instrument for installation in single or multi-engine planes. Its use makes possible greater per load, cruising radius and safety.

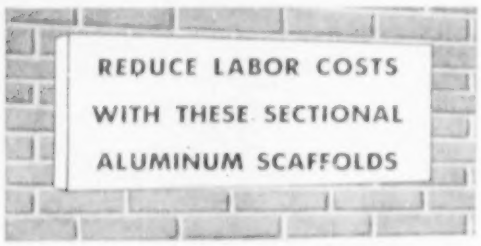
Send for literature

CAMBRIDGE INSTRUMENT CO., Inc.

2710 GRAND CENTRAL TERMINAL, NEW YORK 17, N. Y.

Pioneer Manufacturers of Precision Instruments

BRIEFITS—Identify by IEN-7324 if you write the maker



FRAME TYPE

by the makers of Gold Medal Ladders and Scaffolding

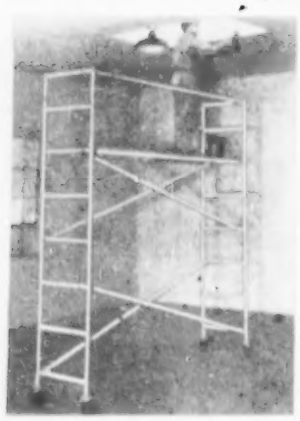
Light in Weight — The latest in rolling scaffolds.

Easy to Erect — Aluminum parts are lighter and easier to handle.

Safe — Cross bracing insures rigidity.

Interchangeable parts permit scaffold of one or more sections.

Two Types — Stairway (illust.) and ladder frame type. Base dimensions of both are 4'8" x 6'.



LADDER SCAFFOLDS

Ideal for use in narrow spaces. Rolls through 30" doorway.

Various heights possible. Ladders are 6'1", 5'8" or 4' high.

Various spacings available. (10' shown)

Write for free Bulletins PSS-18 and PSS-19.

A Complete Nationwide Scaffolding Service, based on seventy years of experience in designing, making and supplying all types of off-the-ground safety equipment, assures you:

WHAT YOU NEED **WHERE** YOU NEED IT **WHEN** YOU NEED IT

Lee Mon LADDER & SCAFFOLDING

for Greater Safety...Efficiency...Economy

THE PATENT SCAFFOLDING CO., Inc.

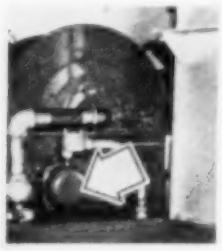
34-21 12th Street, Dept. 18, Long Island City 1, New York

See Your Classified Telephone Directory for nearest office

BRIEFITS—Identify by IEN-7326 if you write the maker

RETRIEVING . . Hose reel with explosion proof electric motor

Source: CLIFFORD B. HANNAY & SON INC.
4950 E. Main St., Westerlo, N. Y.



New assembly of the reel [illegible] are specified for desired electrical characteristics. A majority of the sizes and designs in the line are available with the new motor [illegible] the 3G17 and the 4G17 motor. The unit shown is the 3G17 model. The reel shown is the 3G17 model. The motor for operation on 8 wire [illegible] and the reel rated to hold 140 ft of 1½ in. fuel oil hose.

The motor drives the reel by [illegible] a hose that has been pulled out manually. It is suitable for operation in Class I Group D explosive atmospheres. Installation is made with conduit. The drive is by chain connection to the reel. Control contacts at a normal position. The motor bearings are factory lubricated and permanently sealed.

BRIEFITS—Identify by IEN-7327 if you write the maker

PAINTING . . Concrete floor enamel protects against acids and alkalis

Source: HOUGHTON LABORATORIES
899-92 N. 4th St., Olean, N. Y.

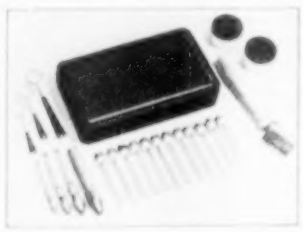
Bulletin 111 contains details

Hard Floor Covering designed [illegible] for application on concrete floors and walls by brush. Coverage is about 350 sq. ft. per gallon. Colors are [illegible] red, gray and green. The enamel is made of inert synthetic resins, thermally stable and resistant to mold growth, attack by insects, [illegible]. The enamel dries to a tough non-porous non-supporting film. Abrasion resisting characteristics are excellent. The dry film is [illegible].

BRIEFITS—Identify by IEN-7328 if you write the maker

CLEANING . . Tool and material kit to clean diesel engine nozzle ports

Source: BACHARACH INDUSTRIAL INSTRUMENT CO.
7002 Bennett St., Pittsburgh 8, Pa.



Four pin vises, four wire brushes, twelve engraved files, [illegible] measuring 300 to 800 [illegible] and two replacements of [illegible] are packaged in a metal carrying box in [illegible] kit. For [illegible] engine manuals, [illegible].

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10

BRIEFITS—Identify by IEN-7329 if you write the maker

BRIEFITS—Identify by IEN-7330 if you write the maker

Because they're years ahead in steam generation

only CYCLOTHERM

STEAM GENERATORS

have cyclonic combustion POWER

WHAT IS IT? It's the modern scientific discovery of transferring heat at the highest degree of efficiency with a new low in fuel consumption. Principal factors of which are the cylinderized solid flame with its exclusive cycle-motion power, designed to utilize the full potential of every particle of fuel . . . and the thin layer of air resulting from centrifugal force that's always between the flame and wall of combustion chamber. A combination to produce steam far in excess of conventional standards for measured heating surfaces.

SEND FOR *ALL* THE BIG REASONS

Learn how the complete, automatic Cyclotherm with its unexcelled all-in-one package type features wipe out waste and excess costs. If you are planning a new or replacement boiler installation it will pay you to first get the facts on Cyclotherm.

Without Obligation Write for Bulletin F-1

CYCLOTHERM CORPORATION

OSWEGO, N. Y.

BRIEFITS—Identify by IEN-7331 if you write the maker

QUICK CHANGES—Simply space the thick guides, set jaw clearances and change the stroke by rotating a dial . . . setups are that easy.

MAKES MORE PROFIT—No more slow hand feeding . . . No more waste due to bag, tedious setups.

EASY ATTACHMENT—[illegible]

ACCURATE—No slipping, no misfeeding, no over-feeding. Positive stops for ultra accuracy.

HANDLES ALL STOCKS—From foil to [illegible] board. Feeds [illegible] to multiple.

SAVE—[illegible]

GET ALL THE FACTS! Write for detailed literature, sizes and prices.

GREAT WESTERN TOOLS, INC., 3811 Riverside Dr., Burbank, Calif.

BRIEFITS—Identify by IEN-7332 if you write the maker

LOOK FOR THE NAME VIKING On Your Pump

Fig. 52

And You Know It's GENUINE

The job of building the original "gear within a gear" rotary pump has been the single aim of the Viking Pump Company for over 39 years.

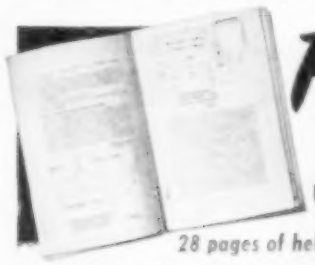
Developments and improvements have steadily progressed with this single purpose in mind . . . the advancement of this most copied of all rotary pump principles.

It's the self priming pump with a steady and sure delivery of all types of clean liquids regardless of viscosity, and in capacities from ½ to 1050 gpm.

The name VIKING is your one assurance of the original and genuine "gear within a gear". Look for it on your next rotary pump . . . be safe and sure. Learn more about the genuine Viking pump today. Write for free bulletin 505F.

Viking PUMP COMPANY
Cedar Falls, Iowa

BREVITY—Identify by IEN - 7333 if you write the maker



Free!

FROM WESTERN PRECIPITATION

28 pages of helpful facts about

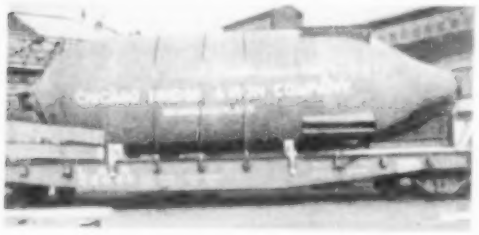
COTTRELL ELECTRICAL PRECIPITATORS

THIS HELPFUL 28 PAGE BOOKLET—prepared by Western Precipitation Corporation, pioneers in the commercial application of COTTRELL Precipitation—summarizes and illustrates many of the basic facts you should know about COTTRELL Precipitators for use in recovering industrial dusts, mists, fogs, fumes, fly ash and other suspensoids from gases. Written particularly to answer questions of design engineers, plant engineers and others interested in COTTRELL Precipitators, this booklet outlines the various types available, how they operate, principal types of electrical systems and rectifiers, shell constructions, other helpful data.

As long as the supply lasts, a free copy will be sent on request to our nearest office. Write for Bulletin No. C102 today!

WESTERN Precipitation CORPORATION

BREVITY—Identify by IEN - 7334 if you write the maker



Want SPECIAL Structures?

Complete facilities, skilled workmen, and many years of experience serving the processing industries back up every quotation we make on tanks and pressure vessels built of steel or corrosion-resistant alloys. The digester shown above—made of carbon steel plates and lined with stainless—is an example of the special structures we build.

We are equipped to build storage tanks or process equipment from carbon steel, stainless steel, aluminum, monel or other corrosion-resistant alloy steels and non-ferrous materials. Let our nearest office furnish information and quotations.

CHICAGO BRIDGE & IRON COMPANY

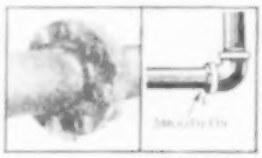
2123 McCormick Building • Chicago 4, Illinois

Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • Salt Lake City
San Francisco • Seattle • Tulsa

Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

BREVITY—Identify by IEN - 7335 if you write the maker

How to PREVENT LEAKS at Flanged or Threaded Joints



You can effortlessly and lastingly seal flanged and threaded joints, valves and mates by applying Smooth-On No. 3. This soft metal cement flows into and fills all voids when making up a joint, besides acting as lubricant threads. It expands and contracts like the surrounding metal with changes in temperature so that it keeps the joint tight. It is impervious to steam, water, oil, gas, air and many chemicals, and withstands high pressures as well as high temperatures. And it makes a tight joint that is ready for immediate service, and may be taken apart when desired.

FREE Repair Handbook

40 Pages of practical repairs to plant equipment, piping and structures, illustrated with 170 diagrams. Write for your free copy today.

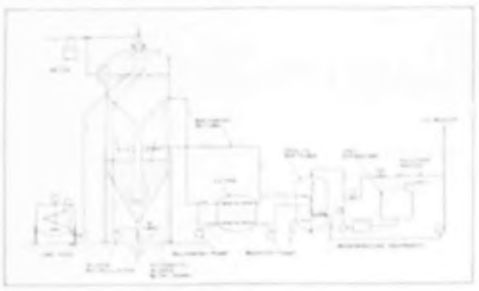
SMOOTH-ON MFG. CO., Dept. 1
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON

BREVITY—Identify by IEN - 7336 if you write the maker

WATER TREATING . . Hot process combined with Zeolite for boiler water

Source: COCHRANE CORP.
3132 N. 17th St., Philadelphia 32, Pa.



New resins for ion exchange have been developed which make possible a new combination of hot process and zeolite water treating equipment to supply properly conditioned water for boiler feed. The resins are polycarbon type and are able to withstand both the high temperature in the water delivered by the heat for process equipment as well as the pH values ordinarily encountered in hot process treating.

Bicarbonates and magnesium are precipitated in the first stage using lime as the reagent. Any remaining hardness is removed from the water in passage through the zeolite softener stage in which salt is employed as the regenerant.

Bulletin 1801, 4 pages, describes the equipment and its operation, lists savings obtainable and tabulates a comparative analysis between coverage for process softening and action in the new combination equipment now available.

BREVITY—Identify by IEN - 7337 if you write the maker

PULLING . . Attachment parts for company's line of pulling tools

Source: PROTO TOOLS
2207-11 Santa Fe Ave., Los Angeles 54, Calif.

No. 1032 is a new separator puller plate with flat surfaces and tapered edges to get into limited space back of bearings or gears and to prevent them slipping while they are being pulled.

No. 1010 is a collection of fourteen step-grove adapters to fit in the ends of hollow shafting or bearings. There they serve as a base for a puller screw to force off bushings, gears, pulleys. Sizes range from ⅜ to 2⅝ in. diameters.

No. 10574 and **No. 10584** are two new slide-hammer puller jaws, one with 2⅞ in. inside reach and 2⅞ in. outside spread, the other for bores to ⅝ in. minimum and depth to 1 in. or less.

No. 10221S and **No. 10618T** are detachable puller screw tips that act as an entering bearing tips to protect axles and shafts against damage and to keep a puller screw on center.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10

BREVITY—Identify by IEN - 7338 if you write the maker

PAGE FENCE *Since 1883*

• AMERICA'S FIRST WIRE FENCE •

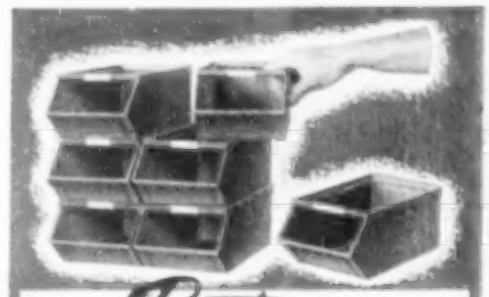
Tailored to Your Needs

● Whether you have management or operating responsibility we have a new, informative booklet that's tailored for you. It will give you valuable information on day and night protection of property and persons by means of fence that's also tailored to your requirements. Your Page Chain Link Fence can be of the style, height and metal that's best for you, no matter what the conditions. And it will be erected by experienced, local experts who offer more than a product—a complete fence service. Write for DH-142. With it we will send name and address of nearest Page Fence specialist.

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, Pittsburgh, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

BREVITY—Identify by IEN - 7339 if you write the maker



Parts . . .

★ Where You Want Them . . .
★ When You Want Them

You'll save time, space and other handling costs and material waste, too, with these popular STACKBINS. STACKBINS keep parts correctly accessible—eliminate waste hand motions—stack compactly to save units of storage the right shape and capacity—made right, strong or portable—work faster, easier, more efficient. Heavy steel, all welded construction.

NOW SEND IN STOCK

Manufactured and sold in Canada exclusively by Wickham Machine Ltd., Ottawa.

Write Stackbin Corp., 1077 Main St., Pawtucket, R. I.

STACKBIN SYSTEM "Stacked and Still Accessible"

BREVITY—Identify by IEN - 7340 if you write the maker

Aeroquip

SELF-SEALING COUPLINGS

With the installation of Aeroquip Self-Sealing Couplings, fluid-carrying lines can be disconnected without loss of liquid or inclusion of air upon reconnection.

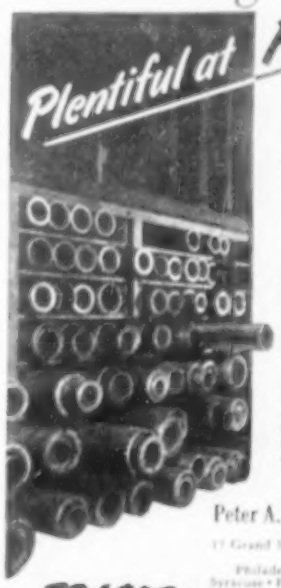
Aeroquip Self-Sealing Couplings are suitable for lines carrying hydraulic fluids, oils, fuels, coolants or refrigeration gases. Write for further details.

Aeroquip for better performance, maintenance and service.

AEROQUIP CORPORATION
JACKSON, MICHIGAN

BREVITY—Identify by IEN - 7341 if you write the maker

Steel Tubing is Plentiful at FRASSE



There's plenty of tubing to choose from when you work from Frasse stocks! You'll find a complete range of welded and seamless tubing in all Frasse warehouses—ready for immediate delivery to your plant.

Stock sizes range from 3/32" O.D. all the way up to 24" O.D., in wall thicknesses from .032" to 1". With well over 1200 sizes on hand to choose from, Frasse is a safe bet to have the one required by your specifications.

Broad selection, speedy availability, and practical engineering collaboration—it all comes up to Frasse for mechanical tubing. For a quotation, or tube engineering on your requirements, call

Peter A. FRASSE and Co., Inc.

17 Grand Street . . . New York 13, N. Y.
WAlker 5-2200
Philadelphia • Jersey City • Buffalo
Syracuse • Hartford • Rochester • Baltimore

for Carbon Mechanical Tubing • Stainless Tubing and Pipe • Condenser, Hydraulic and Pressure Tubes • Tubing to Aircraft Specifications

FRASSE

▼ DIRECT—Identify by IEN - 7342 if you write the maker ▼

Johnson electric motor Bearings FROM STOCK

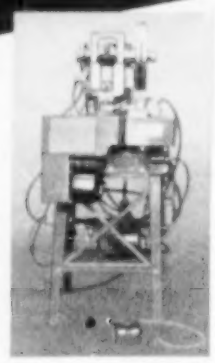
● Over 300 types . . . each one correct in design, alloy, and tolerance . . . ready for immediate installation . . . are available at your local Johnson Bronze warehouse. Every Johnson Bronze Bearing is made from highest quality materials and is precision finished. Properly installed and cared for, Johnson RM Bearings will outlast the motor.

Write for New Catalog

Johnson Bronze
SLEEVE BEARING HEADQUARTERS
476 SOUTH MILL STREET • NEW CASTLE, PA.

▼ DIRECT—Identify by IEN - 7343 if you write the maker ▼

CUT COSTS of feeding punch press with GAST vacuum pumps



PROBLEM: Designer needs inexpensive source for high-speed automatic punch press feeder.

SOLUTION: GAST Rotary Integral-Motor Vacuum Pumps (Model 0320) specified as original equipment on the unit. Vacuum picks up piece from indexing table and feeds it into die.

RESULT: Production potential of this model press greatly increased—parts cut costs tremendously with volume of feeding. Safety is increased—operator hands indexing while actuate danger zone. Uniform feeding protects dies, lengthens die life.

Alert product engineers are finding scores of other applications where GAST Air Pumps and Air Motors give unique advantages as original equipment or other machines. Investigate the possibilities of solving your problem with air.

WRITE FOR "APPLICATION IDEAS" BOOKLET—ALSO GAST CATALOG
"AIR MAY BE YOUR ANSWER"

GAST ROTARY — AIR MOTORS · COMPRESSORS · VACUUM PUMPS

▼ DIRECT—Identify by IEN - 7344 if you write the maker ▼

NOW! A Great New *Modine* Cabinet Unit for both HEATING and COOLING

Design and Mechanical Patents Pending

You can combine all your needs with this new Modine Cabinet Unit for year-round comfort control. Adds comfort for home heating with filtered air circulation. Cools all rooms, weatherproof and protect furniture. Available in 8 capacities from 300 to 600 C.F.M.

Like new Fashion 350 units? Your Modine representative is listed in your yellow pages under "Heating Equipment" or write Modine Mfg. Co., 1501 Dekoven Avenue, Racine, Wisconsin.

Modine CABINET UNITS for Heating and Cooling

▼ DIRECT—Identify by IEN - 7345 if you write the maker ▼

HEATING . . Finned electric element 15 lengths rate 500 to 3,250 watts

Source: VULCAN ELECTRIC CO.
86-90 Holten St., Danvers, Mass.

Nickel-chromium wire is refractory insulated from the inner sheath wall in this new electric element. Rectangular fins are bonded to the sheath. Fins and sheath are made of rust-resistant steel. Terminal screws are provided at one end. They are made of stainless steel.

Fifteen stock lengths for operation on 110 or 220-volt input measure 10½ to 41½ in. in overall length. The finned length is 7 to 30 inches. Application is in locations where sheath temperatures will not exceed 150 deg. F.

▼ DIRECT—Identify by IEN - 7346 if you write the maker ▼

SIGNALING . . Light reflecting sheet, plain, preprinted and in special forms

Source: AMERICAN DECALCOMANIA CO.
4342-46 Fifth Ave., Chicago 24, Ill.

Sample available upon request

Reflectolite trade name a [illegible] coated on one side with [illegible] and pigment [illegible] reflectivity. Reflectolite of this composition has been brought which light for day time. The reflectivity allows it back every [illegible] at night. The sheet [illegible] with the pigment [illegible] and makes for more than [illegible] in [illegible] conditions. Sheets, designs now can be organized. Even the finishing point is added to make the [illegible] of the product. Long and the colored [illegible] special is added down to stock.

New developments [illegible] of the sheet [illegible] special preprinting of [illegible] for [illegible] for [illegible] safety [illegible]. Sheets [illegible] in the [illegible].

▼ DIRECT—Identify by IEN - 7347 if you write the maker ▼

FASTENING . . Steel retainer ring floats in keyed recess to hold stud

Source: SECURITY LOCKNUT CORP.
1813-17 N. Long Ave., Chicago 39, Ill.

A stud or a bolt can be held in inserted position in a threaded hole by screwing the bolts, providing a hot-tray and dropped in a new spring-clips, [illegible] known as the Shuffle. This [illegible] as and the [illegible]. The Crosshead the stud as it is [illegible] to prevent the application [illegible] the locking quantities [illegible] the company. It acts as the locking element, [illegible] a bolt or [illegible] to easily any of the sizes to hold bolt. Sizes range from [illegible] to 2 in. in National Coarse and National Fine thread series. Special sizes can be made on request, [illegible] specification.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ DIRECT—Identify by IEN - 7348 if you write the maker ▼

Faultless ENGINEERED TRUCK CASTERS CUT HANDLING COSTS

A fast-flowing production line on Faultless Casters produces more handling with less manpower and effort. It's your *practical* solution to cutting handling costs.

Brassrollers of [illegible] which you handle or make, there is a Faultless Caster [illegible] to your job. Wheel diameters range from 2" to 12" wheel [illegible] to 1000 lbs.

FAULTLESS CASTER CORP.
Dept. IE-8, Evansville 7, Indiana
Branches in Principal Cities—Canadian Factory: Stratford, Ont.

▼ DIRECT—Identify by IEN - 7349 if you write the maker ▼

New Plastic Compound for Flanged Joints

Garlock SEALING COMPOUND No. 101 is a superior, non-hardening, plastic compound for flanged joints. Unaffected by water, kerosene, gasoline, grease or anti-freeze. For use against steam, water, air, oil, gasoline, gas, weak acids and alkalies—at temperatures from below zero up to 500° F. Easy to apply; reddish color—no waste. Supplied in 2-oz. and 8-oz. tubes.

Write for folder!

THE GARLOCK PACKING CO.
PALMYRA, NEW YORK
In Canada: The Garlock Packing Company of Canada Ltd., Montreal, Que.

GARLOCK

▼ DIRECT—Identify by IEN - 7350 if you write the maker ▼

Your Copy Will Be Profitable To You!

HYDRAULIC circuits involve fewer moving parts; can be arranged and mounted to occupy less space in "hard-to-get-to" locations.

Just Out - 12 pages

Ask For Catalog H 2

The COMMERCIAL SHEARING & STAMPING COMPANY
Youngstown 1, Ohio.

▼ DIRECT—Identify by IEN - 7351 if you write the maker ▼

Don't take less than a *Leach* for Unsurpassed Performance

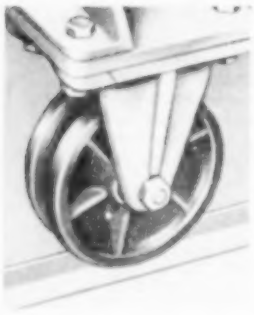
LEACH RELAY CO. offers a wide range of control relays of standard types, and stands ready to link new designs to your specific needs. Highest standards of engineering, materials and workmanship assure long, safe, efficient, trouble free service.

FOR BETTER CONTROLS THROUGH RELAYS—CONTACT LEACH

LEACH RELAY CO.
5915 AVALON BOULEVARD • LOS ANGELES 3, CALIF.
Representatives in Principal Cities of U.S. and Canada

▼ DIRECT—Identify by IEN-7352 if you write the maker ▼

How grooved-wheel casters



Cut Costs of Materials-Handling!

If you handle materials frequently in the same direction, you'll save labor and wear on floors by using Bassick Grooved-Wheel Casters on angle iron track.

They *really* cut materials-handling . . . the 50% of total cost still reducible. Write for Booklet CW-49 on grooved wheels and track, or ask about any type of wheel or caster. You'll find out how to reduce the Reducible 50%. THE BASSICK COMPANY, Bridgeport 2, Conn. Division of Stewart-Warner Corp. *In Canada:* Bassick Division, Stewart-Warner-Alemite Corp., Ltd., Belleville, Ont.

Bassick MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

▼ DIRECT—Identify by IEN-7353 if you write the maker ▼

TRU-LAY Push-Pull is precision-made. Therefore it . . .

- . . . is positive in action as a steel rod, yet flexible as wire rope
- . . . transmits action over long or short lengths, with few or many bends
- . . . will operate while flexing, with practically no lost motion
- . . . is made in capacities up to 1000 pounds input
- . . . is designed for long life—a machine part—not a flimsy gadget

MAIL THE COUPON BELOW

(to our Detroit Office) for bulletin of information about TRU-LAY Push-Pull

ACCO

AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE

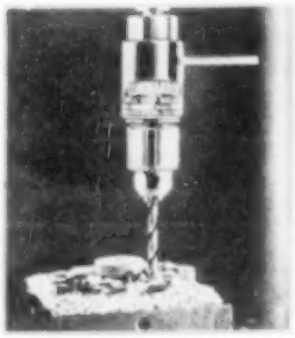
Please send me copy of descriptive bulletin DH-87-E-1

Name _____
Company Name _____
Address _____
City _____ Zone ____ State _____

▼ DIRECT—Identify by IEN-7355 if you write the maker ▼

DRILLING . . Chuck equipped head drives and reciprocates to break chips

Source: COMMANDER MFG. CO.
4223-27 W. Kinzie St., Chicago 24, Ill.



Drill Chip Breaker is a new drilling head equipped with a chuck for drills from 1/4" to 1/2". In addition to providing the rotating drive, the head also reciprocates the drill through an axial movement of 1/16 inch. The resulting action is to break up any chips that tend to come out in long spirals. Clears the chips are all short and feed freely from the drilled hole. The head is supplied in the usual Morse taper to fit a given machine. Chucked outside the action is of course minor. It would be continued in straight drilling work.

▼ DIRECT—Identify by IEN-7356 if you write the maker ▼

TRANSFORMER . . Rates 3 to 100 kva., distribution service to 14,400 volts

Source: PENNSYLVANIA TRANSFORMER CO
P. O. Box 330-A, Canonsburg, Pa.

Includes all required accessories

Protected. Pole-type trade mark is now design in the compact line of distribution transformers. A shell, safety devices are supplied to guard the operation. These include a thermally-operated current breaker, lightning arresters and tank-to-hinge cap protective bolt to cage-winding links to prevent further lockout due to bolted transformer. A pad mount tank unit is also listed.

▼ DIRECT—Identify by IEN-7357 if you write the maker ▼

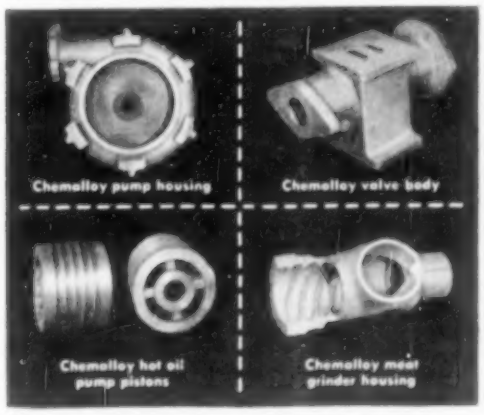
HOSE CLAMP . . Stainless steel supplements previous carbon steel unit

Source: BREEZE CORPORATIONS
39-43 S. Sixth St., Newark 7, N. J.

Protected. Four-bolt type clamp is now design in the Seal-tite clamp rather than special or post-cured described IEN-3049-C. Unit is the same as for the original carbon steel assemblies, screw-driver or thumb-grip adjustment can be specified. Stock sizes range from 1/2" to 4½" in 1/16" diameter. Larger sizes can be made on order. A quick-release lever can be built into the clamp when the need is felt.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ DIRECT—Identify by IEN-7358 if you write the maker ▼



To Combat CORROSION . . . Specify CHEMALLOY*

Chemalloy is not just one alloy, but a group of alloys . . . each developed to combat certain corrosive conditions. Wherever your corrosion problems require stainless, Ni-Resist* or other high alloys, investigate Chemalloy.

Write for Bulletin T-171, Electro-Alloys Division, 1001 Taylor Street, Elyria, Ohio.

*Reg. U. S. Pat. Off.

AMERICAN Brake Shoe COMPANY — ELECTRO-ALLOYS DIVISION, ELYRIA, OHIO

▼ DIRECT—Identify by IEN-7359 if you write the maker ▼

A "PACKAGED" UNIT—Complete with built-in hydraulic power unit, controls, and pressure gauge. Capacity, 5 tons, 10" stroke, 7" reach, 16" daylight. Stroke and pressure adjustable. Choice of models for bench or floor mounting.

DOZENS OF USES—Ideal for countless punching, press assembly, forming, straightening, broaching, and similar operations.

BIG VALUE! LOW COST—Built to "Big Press" standards of quality! Rigid, deflection-resistant frame. Precision-built cylinder and ram.

POPULAR WITH USERS—Works fast with effortless ease. Precision pressure control at operator's finger tip. Easy to set for exact repetitive pressures.

QUICK DELIVERY—Get the presses you need now out of Hannifin's regular volume production. *Write for descriptive literature.*

HANNIFIN CORPORATION
1107 S. Kilbourn Ave., Chicago 24

▼ DIRECT—Identify by IEN-7360 if you write the maker ▼

If You're Working in WOOD, METAL or PLASTICS

There's a **SUNDSTRAND** *Portable Pneumatic Sander To Suit The Job*

FREE DATA

SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC MACHINE DIVISION
ROCKFORD, ILLINOIS, U.S.A.

▼ DIRECT—Identify by IEN-7361 if you write the maker ▼

TRIPLOC Plugs and Receptacles

An Exceptionally Versatile Line in the Heavy Duty Field

An exceptionally versatile line, unequalled in the heavy duty field, with a virtually unlimited number of assembly combinations to meet the individual requirements of any portable electrical equipment.

Interchangeable contacts, 1 to 6 poles, can be assembled in standard plug shells and receptacle housings. The protected female contact unit can be assembled in either plug or receptacle for safety in the live side of the circuit. Flexible cords and mats with ring pole grounded are also available.

Automatic latches lock with either manual or combination manual and automatic release protects equipment and wiring. Wide range of grounded cord plug shells, receptacles, and cord connectors available in the complete Triploc line, including cast metal housings threaded for watertight gasket seal. Ratings up to 30 amperes, 250 volts DC, 600 AC. Consult your Pyle Catalog 1100, Bul. 1140-C for complete listings.

THE PYLE-NATIONAL COMPANY
1348 North Kostner Avenue • Chicago 51, Illinois

BREEFITS—Identify by IEN-7362 if you write the maker

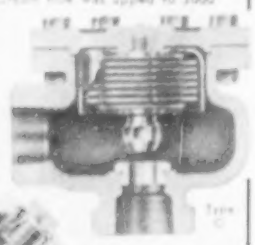
Large Processor Achieves

MORE UNIFORM HEATING CYCLES

with Nicholson Steam Traps

The positive action of Nicholson traps was recently used successfully by a chemical maker to smooth out the heating cycles of cookers at 50 to 60 minutes, against previous periods up to 105 minutes. Steam flow was upped to 3000 lbs. an hour against 2000 for the previous mechanical type.

5 TYPES FOR EVERY APPLICATION, process, heat power. Sizes ¼" to 2", pressure to 225 lbs. Send for Bulletin 450.



BULLETIN 450 or see Sweet's

W. H. NICHOLSON & SON 139 OREGON STREET WILKES-BARRE • PA

Sales and Engineering Offices in 15 Principal Cities

BREEFITS—Identify by IEN-7363 if you write the maker

THE *Multiple-Purpose* FLOOR-MAINTENANCE MACHINE THAT'S

Two Sizes in One!

Here is a machine that not only can be used to scrub, apply wax, polish, steel wool, scrub rugs, and disc-sand, but also affords the further economy of a machine that is two sizes in one. This 100 Series Finnell, in use at the larger sizes as shown above at left, can be reduced to the small size unit shown in circle. Note the low, trailer-type construction of the machine, and how easily it goes beneath furnishings. Three sizes: 13, 15, and 18-inch brush diameter. For consultation, demonstration, or literature, phone or write nearest Finnell branch or Finnell System, Inc., 2600 East St., Elkhart, Ind.

FINNELL SYSTEM, INC. *Pioneers and Specialists in* FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES — BRANCHES IN ALL PRINCIPAL CITIES

BREEFITS—Identify by IEN-7364 if you write the maker

Here's why it PAYS to use

FAIRFIELD GEARS

★ MASS PRODUCTION ECONOMY

Large or small, you get the benefits of high production rates and big volume output at FAIRFIELD—the place where fine gears are produced to meet your specifications EFFICIENTLY, ECONOMICALLY!

★ QUALITY PLUS

There is no finer recommendation for the quality of the product you sell than to be able to say that it is "EQUIPPED WITH FAIRFIELD GEARS!"

★ DEPENDABLE SOURCE OF SUPPLY

Supplier of precision-made automotive type gears for thirty years to leading builders of construction, agricultural, industrial, marine, and automotive equipment.

★ COMPLETE PRODUCTION FACILITIES

Unexcelled facilities for producing Spur, Herringbone, Spiral Bevel, Straight Bevel, Hypoid, Zerol, Worms and Worm Gears, Splined Shafts, and Differentials to your specifications.

FAIRFIELD *for FINE GEARS*

FAIRFIELD MFG. CO., 315 South Earl Avenue, Lafayette, Ind.

BREEFITS—Identify by IEN-7365 if you write the maker

MELTING .. Electric solder pot with crucible for 2 and 5 lb. of metal

Source: STA-WARM ELECTRIC CO. 560 N. Chestnut St., Ravenna, Ohio

No. 618-Y and No. 660-Y are two new units in the company's line of electrically heated solder pots. Both employ new design of element to apply heat evenly and avoid any hot spots. Both have open-top crucible and flanged housings.

List prices are $12.85 and $14.30 for the two sizes based on single-level design in which temperatures range and holds between 750 and 850 deg. F. depending on voltage fluctuation. Also available is a three-heat model with the same high temperature as "standard" plus between 550 and 600 deg. F. and a low equal to about 300. A third design is the horizontal pointed type to set at the factory for a specified temperature.

BREEFITS—Identify by IEN-7366 if you write the maker

SEALING .. Pipe joint compound has plastic base, for flanged joints

Source: GARLOCK PACKING CO. 50 Garlock St., Palmyra, N. Y.

in 2 ounce and 8 ounce tubes

Non-hardening plastic forms the base of the company's new No. 101 sealing compound for flanged joints in lines carrying anti-freeze solutions, gasoline, petroleum, water, gas, brine acids, alkalis at temperatures from below zero to plus 500 deg. F. Joints so sealed will not freeze and can be opened as required.

The material applies with gasket or flanges where flanges are rough or pitted. It is equal for temporary repair in gasketed joints on low pressures. It will seal seams and joints between light metal surfaces where gaskets cannot be used. It will make temporary repair between bolted flanges without gaskets on low pressures. It can be employed as a substitute for the company's Type-A compound for threaded connections previously described IEN 290-30.

BREEFITS—Identify by IEN-7367 if you write the maker

WRENCH .. Adjustable open end, 1⅜ to 4¾ in. in two sizes

Source: OWATONNA TOOL CO. 371 N. Cedar St., Owatonna, Minn.

No. OA 21 and No. OA 30 are two new, pot-adjusting wrenches in which a bolt applies to the body to position the jaws for any of the 29 mid-wrench sizes covered by the two units. The smaller wrench adjusts between 1⅜ and 2¾ inches. The larger sets between 2¾ and 4¾ inches. Lengths are 24 and 36 inches. Weights are 10 and 22 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

BREEFITS—Identify by IEN-7368 if you write the maker

for GREATEST DEPENDABILITY and EFFICIENCY in metered pressure pumping of

SULPHURIC ACID

...at all concentrations

Pumps against line pressure — meters accurately — has no stuffing box, so eliminates leakage, prevents corrosion of pump or contamination of product, avoids loss of acid — lowest maintenance — thousands of satisfactory installations.

- NO STUFFING BOX OR RUNNING SEAL
- POSITIVE DISPLACEMENT PISTON MEASUREMENT
- FLOW RATE ADJUSTABLE WHILE IN OPERATION
- MANUAL OR AUTOMATIC CONTROL

Lapp PULSAFEEDER

PISTON-DIAPHRAGM CHEMICAL PROPORTIONING PUMP

WRITE for Bulletin 262 with complete description and specifications. LAPP INSULATOR CO., INC., PROCESS EQUIPMENT DIVISION 122 MAPLE STREET, LE ROY, N. Y.

BREEFITS—Identify by IEN-7369 if you write the maker

Good Packaging Requires Sound Checkweighing ....

Uniform bags or cartons meet every requirement. Net weight in the container is accurate.... overweight is eliminated and product recovered .... underweight does not occur. You meet all weights and measures regulations everywhere. No matter what or how you package gear your checkweighing to your production line. Do this with weighing equipment that fits the job. EXACT WEIGHT Scales are in daily use in thousands of manufacturing plants, coast to coast .... are built for your particular needs for manually operated, semi-automatic or fully automatic operations. Write for details for your business.

EXACT WEIGHT SCALES

Industrial Precision

THE EXACT WEIGHT SCALE COMPANY

130 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

BREEFITS—Identify by IEN-7370 if you write the maker

PULLMAX DOES IT ALL!

PULLMAX

Sheet and Plate Working Machines

Imagine, one machine doing all of these operations—seven models that work the full range, gauges up to 11/32" (in mild steel). Also ideal for working stainless, non-ferrous metal, wire mesh. Leaves a smooth perpendicular cut with no further finishing required. Pullmax does it better .... faster.

WRITE FOR ILLUSTRATED CATALOG

AMERICAN PULLMAX CO., INC.

2631 North Western Avenue Chicago 47, Illinois

BREEFITS—Identify by IEN-7371 if you write the maker

Rental and Sale Prices NOW REDUCED

FAMOUS

ELECTRONIC RAT TRAP!

You've read about this wonderful, completely automatic ELECTRONIC RAT TRAP in Life, Look, Time and elsewhere. Now you can buy or rent it at substantially reduced prices! It's the safest, surest, most sanitary means of killing rats! No bait required! Re-sets itself!

Excellent city, state and sectional franchises now available to financially responsible parties. Minimum investment of $500 required. Many mail inquiries in file awaiting direct contact. We supply demonstrator, circulars, etc.

ELECTRONIC RAT TRAPS, Inc.

80 Main St. W., Rochester 14, N. Y.

▼ PROFITS—directly by IEN - 7372 if you write the maker ▼

SAVE on OPERATING COSTS and RENT with CARD Sturdi-Lite SAFETY LADDERS

EASY to move around. SAFE to work on, handy shelf or basket at top. Amazingly LIGHT WEIGHT but STRONG tubular ALUMINUM construction, including hand rails. Sturdy one-piece steps non-skid rubber treads. Self-leveling casters on two rear legs and front Swiveling Caster. Heavy coil spring keeps the two front rubber feet off floor until a person steps on ladder, then they lower and rest securely on floor.

MANY Time-Saving USES in factory assembly lines, maintenance work, stock, tool and file rooms, etc.

SAVE SPACE—stack things HIGH in files, shelves, bins, stock pile, etc. They're easy to get at with CARD SAFETY LADDERS.

For NARROW AISLES in 14" width in Single, Range and Range with shelf or basket at top.

For WIDE AISLES in 24" width in Single, Range and Range with shelf only at top.

ALSO Extra Sturdi-Lite Railways.

Write

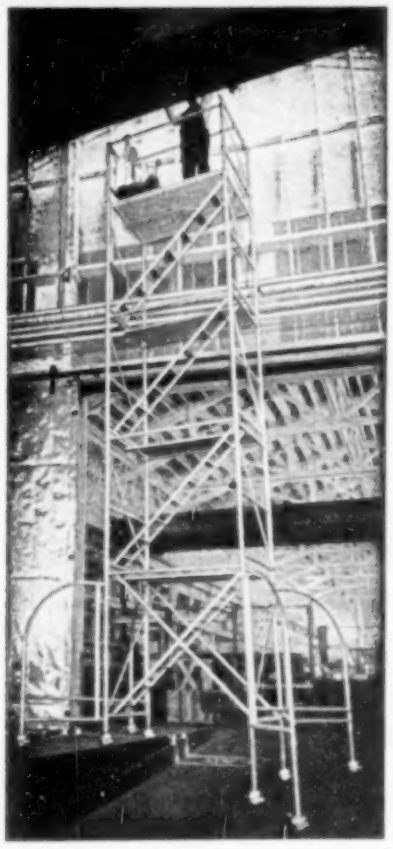
D. R. CARD COMPANY
National Distributor
829 MERCHANDISE BLDG
MINNEAPOLIS 1, MINN.

Mfrs.: BURD METAL PRODUCTS
Clearwater, Fla.

▼ PROFITS—directly by IEN - 7373 if you write the maker ▼

Speed up overhead maintenance with Aluminum Alloy "UP-RIGHT" SCAFFOLDS

This mobile 30' unit was set up by 2 men in only 10 minutes



New labor-saving, cost-cutting advancement for work on walls, ceilings, cranes, overhead machinery, sprinkler systems, ventilating and heating installations. Bridges obstacles with ease. Available in desired number of 6 foot section units. Instantly adjustable legs. Stronger than structural steel yet one-third the weight. Safety head stairway completely within the structure. No wrenches, wing nuts, bolts, loose parts. Each section folds flat.

Write for Descriptive Circular

UP-RIGHT SCAFFOLDS
DEPT. 142 • 1013 PARDEE ST.
BERKELEY, CALIFORNIA

FACTORIES: BERKELEY, CALIF. AND TETERBORO, N. J.
Sales Offices in All Principal Cities

▼ PROFITS—directly by IEN - 7375 if you write the maker ▼

WOOD WORKING . . Radial arm machine, 2 in. cut depth, steel cabinet mounting

Source: DE WALT INC.
63 Fountain Ave., Lancaster, Pa.

New assembly of the company's Model 410 radial arm saw, equipped with a new cabinet or stand. The machine is fixed as well as the power-operation. The cabinet also contains operating and storage space and supports. It can be equipped with Multiquick attachments for the saw. As well as the saw, it will not guarantee.

The machine is fixed by a lever action. It tilts up to 2 in. in depth, to 12 in. in from or back and left up to the saw of 18 in. travel. It can be used for wood and light metals, including aluminum, magnesium, plastics, shaping, shaping, shaping, shaping. It can be fitted with a 1 HP.

▼ PROFITS—directly by IEN - 7376 if you write the maker ▼

FURNITURE . . Stand-up shop desk made of steel, 33 by 29 by 43 inches

Source: BERGER MFG. DIV.
Mahoning & Beldee, Canton, Ohio

Drawer design is spill proof

New No. 1210 desk, for small or non-mechanical, 43 in. in height of the front, stepped up, more to 43 in. in the rear, where it is tipped to a front 1 in. in height. The front carries shelves for office, machine, parts. Under the desk top is a drawer measuring 28 in. by 20 in. 4 inches. A trap door the bottom is mounted in the front and rear, one to complete the complete. Finish is baked green enamel.

▼ PROFITS—directly by IEN - 7377 if you write the maker ▼

ROCK DRILLING . . Hammer attachment for use on company's tractor compressor

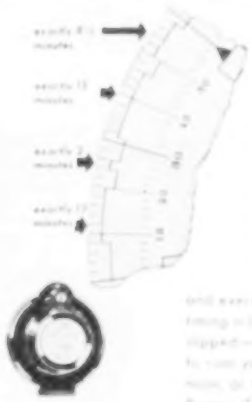
Source: SCHRAMM INC.
800 E. Virginia Ave., West Chester, Pa.

Pneumatrch trade connection permanent, a cylinder that applies at an pre-set on a vertical column at the rear of the Pneumatrch preceding described (IEN-6981-30). The cylinder pressure ratio is 0.45 or a 0.54 rock drill at the compressor is manufactured and pressure 200 lb. maximum. It actuate 24 in. drill changes. The equipment is available now with the Type BT-22 for 600 tamper or a Type B-80 paving breaker.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

▼ PROFITS—directly by IEN - 7378 if you write the maker ▼

Process Timing



"The sink must be 8½ minutes" — "the heat must be applied exactly 12 minutes" — "the plating must take just 7 minutes" — "the pigment must be mixed just 12 minutes" — etc.

The Servis Recorder (Below) records just what happened — if "time-no process." You are no longer on the clock. Know now as you know all day and every day whether your process timing is lined up to — or if somebody slipped — if something went wrong to cost your product for that after-noon, or that whole day! Write for Process Timing Catalog. The Service Recorder Co., 1373 Euclid Avenue, Cleveland 15, Ohio.

Best the 2 in. Recorder right to the machine itself. Let the "Process" record itself on the chart — (No ink, no pencil, no wires, the record is recorded in wax)

The Servis Recorder
The "Time Clock" for Machinery

▼ PROFITS—directly by IEN - 7379 if you write the maker ▼

▼ PROFITS—directly by IEN - 7380 if you write the maker ▼

A Typically Sanitary Washroom . . . with BRADLEY DUO-Washfountains

In keeping with the glazed tile walled lavatory and toilet room in the new United Air Lines maintenance base, San Francisco, Bradley wall-type DUO-Washfountains add an extra sanitary feature.

FOOT-CONTROL

Being foot-controlled and without faucets, hands touch nothing but the running spray of clean water. The self-flushing bowls guard against collection of contaminating water.

Bradleys will add this sanitary feature to your washrooms, also. Write for Bulletin K-711.

BRADLEY WASHFOUNTAIN CO., 2219 W. Michigan St., Milwaukee 1, Wis.

BRADLEY Duo Washfountains

▼ PROFITS—directly by IEN - 7381 if you write the maker ▼

Why WISCONSIN FOUR-CYLINDER Air-Cooled ENGINES ARE ALL V-TYPE

1. V-type design provides a more compact power package for easier, more adaptable installation on original equipment.
2. V-type design means lighter weight, adding to ease of handling and mobility.
3. V-type design provides most efficient air cooling — the air blast travels only half as far as required for a 4-cylinder "straight-in-line" engine.
4. More uniform cooling of V-type engines assures more economical and smoother engine performance, lower maintenance cost, longer engine life.
5. V-type cylinders are cast in pairs, 2 cylinders to a block, thus greatly reducing replacement cost if and when that should be necessary and simplifying servicing.

Wisconsin V-type 4-cylinder design is typical of the advanced engineering found throughout all Wisconsin Engines — 4-cycle single, cylinder, 2-cylinder and 4-cylinder models, in a complete power range from 3 to 20 hp. Write for detailed data.

V VE-4

15 to 27.5 hp.

V VF-4

17.5 to 31 hp.

V VP-4

26.8 to 31 hp.

WISCONSIN MOTOR CORPORATION
World's Largest Builder of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46, WISCONSIN

BREEZITS—Identify by IEN - 7382 if you write the maker

A REALLY

PORTABLE

UTILITY

PUMP

Fig. 1670 (weight—about the same as a small suitcase)

● This famous pump is the answer to a hundred miscellaneous pumping problems in industry where portability and self-priming are important requirements. Here are some of its advantages:

Light weight — [illegible]

Quick, easy starting — [illegible]

Self-priming — [illegible]

High suction lift — Up to 25 ft.

No clogging — Open impeller passes any solids that will enter suction opening

Compact — Close-coupled construction makes pump, with motor, its sturdy compact, self-contained unit

No stuffing box — Mechanical seal is self-lubricating but does not impede the lubricating

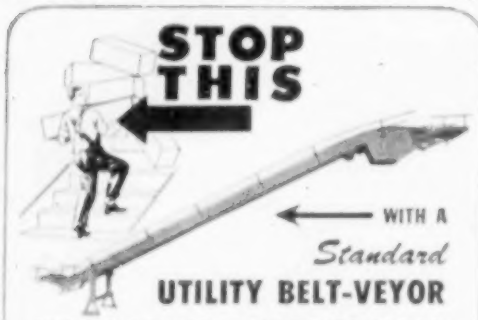
High capacities — Up to 50 U.S.G.P.M.

For more information, See your Industrial Distributor or write Goulds Pumps, Inc., Seneca Falls, N. Y., for Bulletin 419-1.

Goulds PUMPS INC. Seneca Falls New York

BREEZITS—Identify by IEN - 7383 if you write the maker

STOP THIS



WITH A

Standard

UTILITY BELT-VEYOR

LIFT OR LOWER—FLOOR TO FLOOR OR CONVEY HORIZONTALLY

Move boxes — cartons — crates — sacks and bundles from basement to first floor, or any floor to floor, or convey in a straight line — economically with the Standard UTILITY BELT-VEYOR. A compact, pre-engineered unit, easy to install over existing stairways where physically handles commodities up to 150 lbs. — available in 4 belt widths — 10, 14, 20 and 24 inch — and equipped with adjustable guard rails to facilitate handling packages wider than belt. Electric motor operated. Write for Bulletin IEN-80.

Standard Conveyor Company
North St. Paul
Minnesota

Sales and Service in Principal Cities

Standard GRAVITY & POWER CONVEYORS

BREEZITS—Identify by IEN - 7384 if you write the maker

IMPORTANT!

REDUCE FIRE LOSSES

with

ROCKWOOD *triple-action*

SG-48 WaterFOG NOZZLES

Improve your fire protection now by installing throughout your plant Rockwood Sprinkler WaterFOG Nozzles. They give uniform water greater fire extinguishing power and will outperform any other fog nozzles operating on either high or low water pressures.

Rockwood WaterFOG Nozzles are light in weight and are easier to handle in action. The modern nozzle challenges 1. high velocity WaterFOG 2. straight stream 3. low velocity WaterFOG from exposure applications which can be easily reached in place of the high velocity WaterFOG tip. Provides finesse with greater protection and fire fighting efficiency.

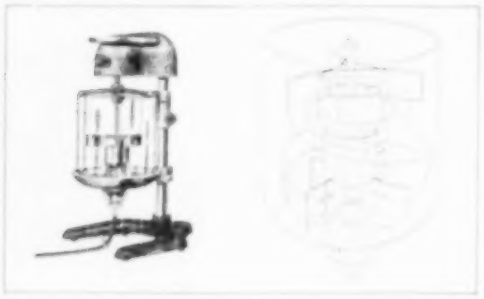
Approved by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories. Ask for bulletin C-501E

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET WORCESTER 5, MASS.

BREEZITS—Identify by IEN - 7385 if you write the maker

MIXING . . Paddle-baffle assembly for rapid dispersion in a liquid

Source: FISHER SCIENTIFIC CO.
715-19 Forbes St., Pittsburgh 19, Pa.



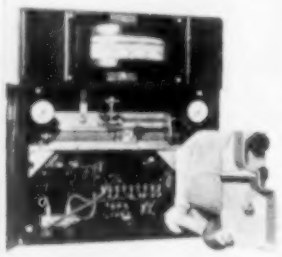
New Goldman mixer combines the action of a set of paddles on the lower end of a ½ hp. motor shaft and a set of similar paddles mounted on a non-revolving baffle and suspended by three chains to the motor housing. The mixing paddles are mounted curved and set to scoop solution and spread material in the liquid. The non-revolving baffle breaks up the whirlpool action and returns the liquid to the bottom of the beaker in a movement that "folds" it as well.

The laboratory unit is equipped with a 12 x 6 jar holding with 200 gal. capacity. Paddle-spreading in the liquid are made of stainless steel. Rotation is at 275 rpm. with the motor available in specific sizes for 110 or 220 volt operation.

BREEZITS—Identify by IEN - 7386 if you write the maker

CONTROL . . Electronic recorder actuates built-in pneumatic control

Source: WHEELCO INSTRUMENTS CO.
845-49 W. Harrison St., Chicago 7, Ill.



New assembly of the company's Co-pacing electronic recorder includes a pneumatic control mechanism by which diaphragm operation can be actuated on valves, dampers, levers, pedals for multi purposes. Applications can be made for control of temperature, spread, flow, pressure, static strain, humidity, voltage, current. Measurements are made by the recorder using primary elements producing an electrical impulse such as a thermocouple, radiation thermal, resistance bulb. The instrument operates through its electronic primary element to initiate the control action as well as to operate the recording pen.

Control knobs on the pneumatic mechanism permit adjustment to vary flow through a controlled valve between open and closed or a change in the controlled variable between 5 and 150 per cent of the new set-point.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

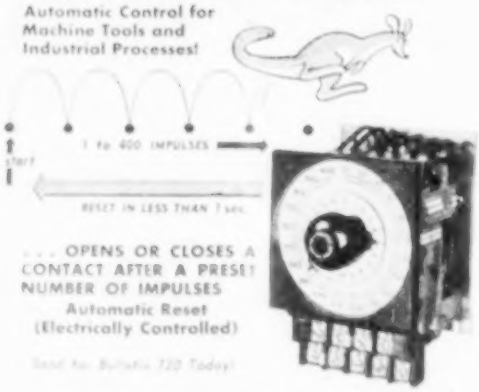
BREEZITS—Identify by IEN - 7387 if you write the maker

Eagle

MICROFLEX

RESET COUNTER

Automatic Control for Machine Tools and Industrial Processes!



. . . OPENS OR CLOSES A CONTACT AFTER A PRESET NUMBER OF IMPULSES

Automatic Reset (Electrically Controlled)

Send for Bulletin 720 Today!

AN EAGLE TIMER FOR EVERY TIMING PROBLEM

EAGLE SIGNAL CORPORATION Davenport, Illinois

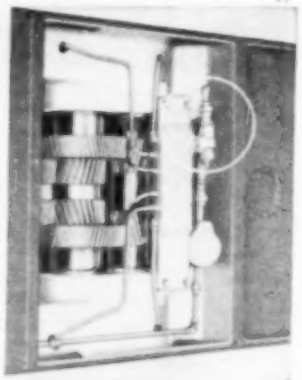
BREEZITS—Identify by IEN - 7388 if you write the maker

In Distinguished Company

FULFLO

OIL-RELIEF BY-PASS VALVES

Installed by CINCINNATI PLANER COMPANY to lubricate table ways on planers and planer type milling machines



This distinguished company, always proud of its products, uses FULFLO OIL-RELIEF VALVES to assure constant, uniform lubricating pressures.

CHATTERLESS . . installed quickly with no further maintenance. Pipe sizes ¼" to 2" standard pipe thread and STD. 100# American Flange Valves 1" to 2½".

Write on your letterhead for free copy:
FULFLO MECHANICAL DATA BOOK

THE **FULFLO Specialties Co., Inc.**
BLANCHESTER, OHIO

BREEZITS—Identify by IEN - 7389 if you write the maker

Eliminate errors in computing time with

CALCULAGRAPH

—AUTOMATICALLY FIGURES JOB TIME!

ACCURATELY **COMPUTES** AND **PRINTS** { STARTING TIME / FINISHING TIME / TOTAL TIME

HANDLES ANY NUMBER OF CARDS IN ANY SEQUENCE

One Calculagraph can figure and record the time for an entire shop or large production department. This precision-built instrument provides multiple recording on any number of cards regardless of sequence. Calculagraph subtracts lunch and other non-productive periods automatically and can even be set to compute dollars and cents, if desired, where cost per minute is a factor.

PRINTS ACCURATE RECORDS EASILY FILED FOR REFERENCE

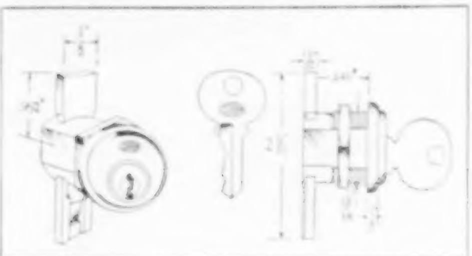
Calculagraph is the most economical means of obtaining completely accurate job time for computing costs. Easy-to-read printed cards can be filed for ready reference when estimating or for check-backs on time study. Now in use in thousands of plants and shops, large and small. Call or write. Dept. C for literature today!

CALCULAGRAPH COMPANY · INCORPORATED
HARRISON · NEW JERSEY

SINCE 1892 — STANDARD EQUIPMENT IN THE TELEPHONE INDUSTRY THROUGHOUT THE WORLD

BREVITY—Identify by IEN-7391 if you write the maker

Let's get together on special Locks for special purposes



Corbin lock engineers design new devices for unusual locking applications.

The Corbin Industrial Catalog includes special locks for vending machines, switch boxes, flush panel locks and many other special applications.

Our Industrial Catalog 99I sent upon request.

Corbin Cabinet Lock
DIVISION
THE AMERICAN HARDWARE CORPORATION
NEW BRITAIN, CONNECTICUT

BREVITY—Identify by IEN-7392 if you write the maker

Skyscrapers were built for the same reason!

High cost of ground area made it cheaper for skyscrapers to go *up* instead of spreading out. Towmotor HIGH STACKING offers industry the same cost-saving opportunity. Stack *ceiling-high*, save warehouse space, free floor areas. Learn how—write for "Handling Materials Illustrated." Towmotor Corporation, Div. 26, 1236 E. 152nd St., Cleveland 10, Ohio. Representatives in all Principal Cities in U. S. and Canada

"THE ONE MAN GANG"
See this sound movie on Materials Handling in your office. Write for details.

TOWMOTOR
THE ONE-MAN-GANG
FORK LIFT TRUCKS and TRACTORS

NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Identification, size of the material, information it contains so you can judge its value to you.

ADHESIVES . . . To seal fiberboard shipping containers; selection, application suggestions. Bulletin 22, 8 pages. [illegible] Products Inc., 1772 Canalport Ave., Chicago 16, Ill. IEN-[illegible]

ADHESIVES . . . "Seal" silicate material to seal fiberboard boxes; properties, steps. Pocket Folder 28-1, 8 pages. Philadelphia Quartz Co., 1131 Public Ledger Bldg., Philadelphia 6, Pa. IEN-[illegible]

AIR CONDITIONING . . . And humidifying equipment for textile plants. Illustrated reviews, specials. Bulletin [illegible], 24 pages. Parks-Cramer Co., 90 Parks St., Fitchburg, Mass. IEN-[illegible]

BELTS . . . "Cordax" rayon reinforced leather V-belt and flat belt; sizes, list prices. Two pocket folders, [illegible] pages each. [illegible] Co., [illegible] St., Minneapolis [illegible], Minn. IEN-[illegible]

BENDING . . . Machines for tube bending; methods, suggestions on bending and fabricating tubes. Catalog [illegible], [illegible] pages. Wallace Supplies Mfg. Co., 1308 Diversey Pkwy., Chicago 14, Ill. IEN-[illegible]

BLOWERS . . . Rotary, swinging-vane units for pressure or vacuum; specifications, performance. Catalog [illegible], 16 pages. [illegible] Bros. Inc., 132 F Christie St., Newark [illegible], N. J. IEN-[illegible]

BORING . . . Special-purpose machine tools for boring, milling, drilling; illustrated typical examples. Folder 100, 4 pages. [illegible] Corp., 4507 W. Mitchell St., Milwaukee 14, Wis. IEN-[illegible]

BROACHING . . . Tools and fixtures for a variety of work; general description, notes on a [illegible] tool. Folder W, 6 pages. Detroit Broach Co., 20255 Sherwood Ave., Detroit 34, Mich. IEN-[illegible]

CABLE . . . Electric power cables for mining service; descriptions, [illegible] ratings, splicing. Bulletin 1000, 20 pages. Simplex Wire & Cable Co., 77-81 Sidney St., Cambridge 39, Mass. IEN-[illegible]

CASTERS . . . Fixed and swivel designs; sizes, load ratings, [illegible] wheel materials. "Industrial Casters", 16 pages. Midwest Precision Corp., [illegible] Hillsdale St., Jackson, Mich. IEN-[illegible]

CHUCKS . . . [illegible] chucks for straight and taper shank drills, taps, reamers; dimension tables. Bulletin [illegible], 8 pages. [illegible] & Co., [illegible] N. Rockwell St., Chicago 8, Ill. IEN-[illegible]

CHUCKS . . . Magnetic units to hold work for machining; models, illustrated fixtures, setups. Bulletin [illegible], [illegible] pages. [illegible] Machine Tool Co., [illegible] St., Rockford, Ill. IEN-[illegible]

CLEANING . . . "Black Beauty" non-metallic, silica-free blast grit; description, performance. Pocket Folder [illegible], 8 pages. American Wheelabrator & Equip. Corp., [illegible] S. Byrkit, Mishawaka, Ind. IEN-[illegible]

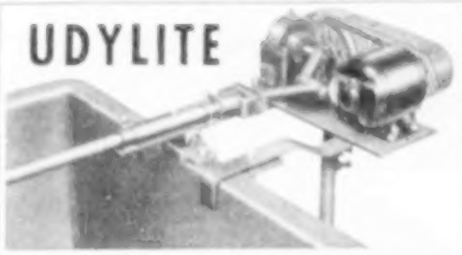
CLEANING . . . Materials to clean metal parts [illegible]; summary of properties. Pocket folder, [illegible], 8 pages. [illegible] Corp., P. O. Box [illegible], Detroit [illegible], Mich. IEN-[illegible]

CLEANING . . . Details on the company's no charge, no obligation [illegible] survey of plant washroom facilities. "Sanitary Survey", 4 pages. [illegible] Co., [illegible] Lane, [illegible], Conn. IEN-[illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page [illegible]

BREVITY—Identify by IEN-7395 if you write the maker

UDYLITE



CATHODE ROD AGITATOR—

The Udylite Cathode Rod Agitator is compact, simple and dependable, and provides smooth, constant agitation of parts suspended in plating solution. This affords uniformly even plate distribution, allowing considerably greater plating current densities.

The Agitator is simple to install and operate. Maintenance is practically zero. A replaceable protective shoe fitted underneath the work rod takes all the wear, and a specially hardened roller carries the load.

Easily adjustable stand permits quick adjustment to any depth tank. No special wiring is required—¼ h.p. motor plugs into any regular light socket. Models are available for either single or double cathode rod tanks.

Representatives in all Principal Cities

THE Udylite CORPORATION
DETROIT 11, MICHIGAN

BREVITY—Identify by IEN-7396 if you write the maker

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U. S. A.

Write for KIPP Air Tool Catalog AT 3006

BREVITY—Identify by IEN-7393 if you write the maker

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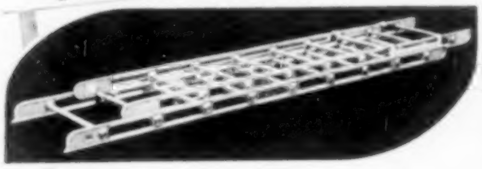

The ALCO-LITE Type LDL ALUMINUM LADDERS

The ALCO-LITE Type LDL ladder was designed specifically for use where extreme light weight combined with considerable strength is required. The fly ladder is supplied with locks, pulleys and ropes as standard equipment. Easy to move about, easy to erect, easy to store. Fine for general purpose use.

Write for information describing nine types of ALCO-LITE Aluminum Industrial Ladders

Pioneer Builders of Aluminum Industrial Ladders

ALCO-LITE ALUMINUM LADDERS
ALUMINUM LADDER COMPANY
100 CARBIS STREET • WORTHINGTON, PENNA.

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NEW! BRADY MASKS
Die-Cut to Sizes and Shapes You NEED...

Self-adhesive **BRADY MASKS** will save you time and dollars in spray-painting, tumbling and sand-blasting operations. ***Die-cut to the exact shape and size you require,*** form-fitting **BRADY MASKS** protect name plates, machined parts, plated and polished sections, holes, threads, and other areas from paint, plating solutions and damage. They eliminate costly hand cutting, use of stop-off materials, and expensive metal shields. Made from "Scotch" Brand Masking Tapes, they are fast to apply and fast to remove after use. Low in cost, **BRADY MASKS** will bring immediate worthwhile savings to your plant. Circles, squares and rectangles **stocked in many sizes.** Write today for useful literature and **FREE SAMPLES.**

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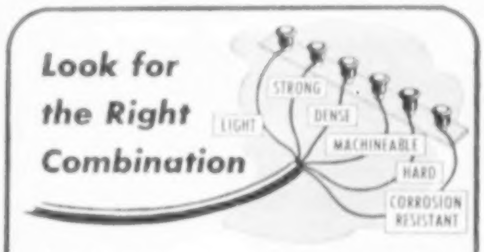
Look for the Right Combination



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Synthane is a material that has this combination. Strong, light, hard and dense, it is easily machined on standard equipment. Corrosion and moisture resistant, Synthane also possesses excellent electrical properties such as high dielectric strength, low power factor and low dielectric constant.

You can find out more about Synthane's possible place in your product or process by mailing the coupon below. Why not do it today?

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SHEETS • RODS • TUBES
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South River Road, Oaks, Pa.
Please send me a copy of the complete Synthane catalog.
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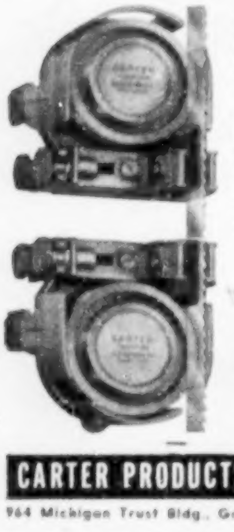
OPERATION... Carter ...MORE SAVINGS!

Carter Micro-Precision Guides Trim Time and Material Waste from Your Bandsawing



You need more than a "good operator" before you'll cut wasteful costs from your woodworking production. By holding the blade close to the work, Carter Guides save expensive material waste. Reduces blade breakage to an absolute minimum . . . helps (close) accurate fine work.

Carter's new Templet Pins double increase the guide's efficiency. Allow your operators to cut more pieces per hour. New Templet Pin Blocks will fit any Carter Precision Guide. Install Carter Micro-Precision Guides with Templet Pins in your plant now.

Write Today!

. . . for your FREE catalog, plus detailed data on how Carter Guides can be applied to your operations.

CARTER PRODUCTS COMPANY

964 Michigan Trust Bldg., Grand Rapids, Mich.

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ANCHOR CUT-OUTS

• *Cut "DOWN-TIME"*

• *Protect Machinery*

ANCHOR CUT-OUT PULLEYS

An automatic device that shuts off the motor instantly in case of an overload . . . resets automatically . . . saves loss of production man hours.

ANCHOR CUT-OUT COUPLINGS

For direct connection between two shafts. It serves as a flexible coupling with overload protection.

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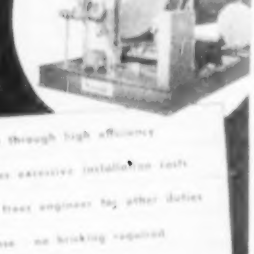
ORR & SEMBOWER

Powermaster®

STEAM GENERATORS

High and low pressure units — 15 to 300 H.P. — for light oil, heavy oil, gas or combination gas-oil firing give you cost-cutting features like these . . .



- ✓ Low fuel consumption through high efficiency
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NEW LITERATURE—Continued

"Number of pages tells you the size"

CONNECTORS . . . Neoprene electrical plugs and receptacles: types, wire, fittings. Bulletin MC-[illegible], 4 pages. Joy Mfg. Co., Mines Equipment Div., A-[illegible] Oliver Bldg., Pittsburgh 22, Pa. IEN-0901

CONSTRUCTION . . . Ransome concrete mixers; descriptive details on 11 and 16 cu. ft. models. Bulletin R-217-A, 8 pages. Worthington Pump & Machy., 421 Worthington, Harrison, N. J. IEN-0902

CONTAINERS . . . "Clearsite" transparent plastic containers to package parts, tools, product; sizes. Folder G-1, 4 pages. Celluplastic Corp., 49-55 Avenue L, Newark 5, N. J. IEN-0903

CONTROLS . . . "Sim-Pli-Trol" [illegible] making electric motor [illegible] circuit diagrams of seven applications. Folder CMR-5, 4 pages. [illegible] Products Inc., Bell & Main Sts., Chagrin Falls, Ohio. IEN-0904

CONTROLS . . . Mercury bulb temperature controls; operation, selection and application data, diagrams. Bulletin 101, 24 pages. Partlow Corp., 4 Campion Road, New Hartford, N. Y. IEN-0905

CONVEYING . . . Woven wire belts for chemical and food processing, assembly line use; applications. Bulletin 100, 4 pages. Cambridge Wire Cloth Co., Vienna Road, Cambridge, Md. IEN-0906

CORROSION PROOFING . . . "Prosilex" rust preventing and metal treating oil; characteristics, uses. Data Sheet [illegible], 2 pages. American Chemical Paint Co., P. O. Box 201-A, Ambler, Pa. IEN-0907

CORROSION PROOFING . . . Emulsified asphalt for roofs, tanks, structures; properties, uses. "Bitucote", 4 pages. Bitucote Products, 1400-13 Central Industrial Dr., St. Louis 10, Mo. IEN-0908

CORROSION PROOFING . . . Plastic and mastic materials to cover thermal insulation; details. Folder [illegible], 8 pages. Insul-Mastic Corp., 1139-42 Oliver Bldg., Pittsburgh 22, Pa. IEN-0909

COUNTING . . . Electrically actuated recording mechanical counter; specifications on available types "Recorders", 4 pages. Streeter-Amet Co., 4100 N. Ravenswood Ave., Chicago 13, Ill. IEN-0910

CRANES . . . Dual control diesel power unit for truck use; description and pictures to show application "Dual Control", 4 pages. Industrial Brownhoist Corp., 150 Washington, Bay City, Mich. IEN-0911

CUTTING . . . Abrasive cutoff machines, wet or dry, for bar to ¾ in.; specifications, models. Folder "5 HP Series", 4 pages. Tabor Mfg. Co., 6225 Tacony St., Philadelphia 35, Pa. IEN-0912

CYLINDERS . . . Pneumatic power units with 1½ to 8 in. bore; drawings, dimensions, capacity chart. Bulletin [illegible], 16 pages. Lindberg Engineering Co., 2456 W. Hubbard St., Chicago 12, Ill. IEN-0913

DRAFTING . . . Instruments, triangles, pantographs, slide rules; data summaries. Catalog A, 32 pages. [illegible] Scientific Supplies Inc., 342 Madison Ave., Rm. 505, New York 17, N. Y. IEN-0914

DRILLING . . . Portable electric tools including drills, saws; models, with accessories. Pocket Catalog 50-A, 20 pages. Portable Electric Tools, 318-22 W. 83rd, Chicago 20, Ill. IEN-0915

DRIVES . . . Mercury clutch for gradual load pickup; data on models for engines and motors. Bulletins [illegible], 3 pages each. Automatic Steel Products, 1201 12th St., SW, Canton 6, Ohio. IEN-0916

DRIVES . . . Flexible shaft coupling [illegible]; selection chart, dimensions, capacities. Bulletin [illegible], 4 pages. Browning Mfg. Co., 16 Chester St., [illegible] IEN-0917

DRIVES . . . Flexible shafts for power drive; selection chart, sectional drawings and data on 30 [illegible]. Folder [illegible], 4 pages. Elliott Mfg. Co., 346-52 State St., Binghamton, N. Y. IEN-0918

DRIVES . . . Multiple V belt drives; [illegible] selection and dimension tables on sheaves and belts. Bulletin [illegible], 16 pages. Maurey Mfg. Co., 2900-16 S. Wabash Ave., Chicago 16, Ill. IEN-0919

DRYING . . . [illegible] IEN-0920

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings — See Page 58.

▼ BREVITY—Identify by IEN - 7401 if you write the maker ▼

TOUREK

BALL JOINTS • PIPE PLUGS AND QUALITY SCREW MACHINE PRODUCTS

TOUREK

"THE BEST IN QUALITY SCREW MACHINE PRODUCTS"

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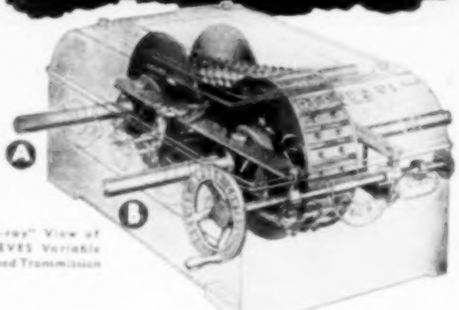
REEVES Provides the Right Speed for Every Operation



"X-ray" View of REEVES Variable Speed Transmission

REEVES Variable Speed Transmission provides exactly the right speed for every job, every operator, under every changing condition . . . assures instant, accurate, infinite speed adjustability for faster processing with absolute precision . . . a wider work range for your equipment. Unit employs the proved REEVES principle of a V-belt driving between two pairs of cone-faced discs moving laterally on parallel shafts. As one shaft (A) receives power at a constant speed, the other shaft (B) transmits power to the driven machine at speeds anywhere above and below that of constant speed shaft, depending on diameter of V-belt contact against each set of discs. Send for Catalog IN-Ta-39 describing REEVES Variable Speed Drives and their application to your driven machines.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

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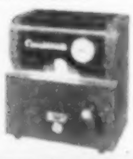
1000-E CARD-O-MATIC MODEL

Fully automatic; trips when time card is inserted.

1000-M MANUAL MODEL

Comes with registering lever attached.



YOU PAY FOR TIME... WHY NOT KEEP IT?

Safeguard your profits by installing a new, improved Cincinnati Job-Cost and Payroll Time Recorder. This wonder machine takes the guesswork out of recording payroll and job time—helps you avoid errors—assures you of a day's work for a day's pay.

Both models employ the exclusive C.T.R. "Vis-A-Card" locator which insures correctly-positioned registrations, eliminates danger of "over-prints," speeds up line time.

For full information, write Dept. IEN 8

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If you are interested in a profitable business [illegible] write us for full details about available distributorships.

THE CINCINNATI TIME RECORDER CO.

1733 CENTRAL AVE. • CINCINNATI 14, O.

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Engineered **HOLTITE** *Fastenings*

Produced in great quantities with the uniform precision of small tools, HOLTITE Engineered Fastenings are gaged and inspected to strict standards of accuracy throughout each stage of production. Furnished with HOLTITE-Phillips Recessed Heads or with slotted heads, these rugged fastenings meet the strictest requirements for ANY application in ANY material.

Special parts and fastenings made exact to specifications or blueprints. Our Engineering Staff will gladly study your fastening problems and recommend economical solutions.

CONTINENTAL SCREW CO.

New Bedford, Mass., U.S.A.

Call Your Distributor

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These AO Horsehide Gloves and Mittens Outwear Asbestos on Heat Jobs!

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QUICK FACTS [illegible]

Your nearest AO Safety Products Representative can supply you.

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SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

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Write for Catalog OF USES and SPECIFICATIONS

GENERAL Industrial Pneumatics

ADD THESE 6 SELLING POINTS TO YOUR PRODUCT

SAVE
• TIME • LABOR
• FLOORS

REDUCE
• BREAKAGE
• MAINTENANCE
• COSTS

Available in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27" — 200 to 2000 lbs. cap., for low or high speeds.

Rigid **CASTER FORKS** *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

More AIR VOLUME • *More* STABILITY • *More* LOAD CAPACITY
DELIVERS *Long Mileage* IN HI-SPEED SERVICE

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THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

NEW LITERATURE—*Continued*

"Facts on literature about a product"

DRYING ... [illegible] IEN-0001

DUST COLLECTING ... [illegible] IEN-0002

EXTINGUISHING ... [illegible] IEN-0003

EXTRUDING ... [illegible] IEN-0004

FABRICATING ... [illegible] IEN-0005

FASTENERS ... [illegible] IEN-0006

FASTENINGS ... [illegible] IEN-0007

FASTENINGS ... [illegible] IEN-0008

FASTENINGS ... [illegible] IEN-0009

FLEXIBLE SHAFTS ... [illegible] IEN-0010

FLOORS ... [illegible] IEN-0011

FLOORS ... [illegible] IEN-0012

FORGINGS ... [illegible] IEN-0013

FURNITURE ... [illegible] IEN-0014

GAGES ... [illegible] IEN-0015

GAGES ... [illegible] IEN-0016

GAGES ... [illegible] IEN-0017

GENERATORS ... [illegible] IEN-0018

GRINDING ... [illegible] IEN-0019

GRINDING ... [illegible] IEN-0020

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 33

BREVITY—Identify by IEN-7408 if you write the maker

[illegible]

INVENTORY CONTROL...*How to control inventory to increase profits*

Source: REMINGTON RAND INC., Management Controls Library, Room 1940, 315 Fourth Avenue, New York 10, N.Y.

[illegible]

For your free copy of booklet KD 175, write direct to the publisher—Remington Rand, Room 1940, 315 Fourth Ave., New York 10, N.Y.—or use the Reader Service Form herein.

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FAMOUS
"Nod & Shake" Type

[illegible]

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BLACKMER HAND PUMPS
for SAFETY
GOOD HOUSEKEEPING & ECONOMY

... in any plant where liquids are dispensed.

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FOR DISPENSING POINTS IN PLANT—WAREHOUSE—STORES

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BLACKMER PUMP COMPANY
GRAND RAPIDS, MICHIGAN

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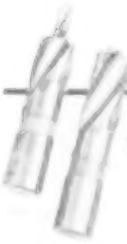


Now PRODUCE SPECIAL TOOLS
SPIRAL OR STRAIGHT FLUTES
from other tools or from solid steel
in your shop

[illegible]

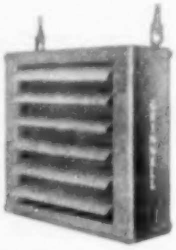
Send for Bulletin

DETROIT REAMER & TOOL CO.
Mfrs. of Special High Speed Cutting Tools
2831 East 7 Mile Rd. Detroit 12, Michigan

▼ BREVITY—Identify by IEN - 7412 if you write the maker ▼

More heat for less money

Make next winter a season of heat-saving instead of heat-wasting. Savings with Thermoliers differ, of course, with differences in buildings, but a railroad shop saved 33%; one manufacturer, 29%; and a company operating 50 plants averaged 30%. Your savings with Thermoliers may be even larger. Get in touch with Grinnell or your local Thermolier distributor.



Four Types for any operating condition

GRINNELL

Grinnell Company, Inc., Providence 1, R. I. Branches: Atlanta • Billings • Buffalo • Charlotte • Chicago • Cleveland • Fresno • Kansas City • Houston • Long Beach • Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Pocatello • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

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The following is from "Tool Topics," the WARNER & SWASEY Co. house organ:

[illegible]

HYPRESSURE JENNY can save man hours and money for you too. Write today!

HYPRESSURE JENNY DIVISION
HOMESTEAD VALVE MANUFACTURING CO.
"Serving Since 1892"

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Hit the jackpot with Sterling Speed Trol Electric Power Drives

STERLING

[illegible]

NEW LITERATURE—Continued

"Address is given so you can write direct"

GRINDING . . . "DS" radial relief grinding fixture for cutting tools; description, work examples. Folder, "DS Grinder", 8 pages. Royal Oak Tool & Machine, 621 E. 4th, Royal Oak, Mich. IEN-8041

GRINDING . . . "Elasta Rod" [illegible] for cut-off machines; properties, sizes. [illegible] 4 pages. Simonds Abrasive Co., Tacony & Fraley, Philadelphia 37, Pa. IEN-8042

HANDLING . . . Containers in [illegible] wood with wire design; construction points, illustrated uses. "Industrial Containers", 4 pages. G. B. Lewis Co., 4 Montgomery St., Watertown, Wis. IEN-8043

HEAT EXCHANGING . . . "Karbate" [illegible] surface; drawings, description. Catalog [illegible], 8 pages. National Carbon Div., 30 E. 42nd St., Box 500, New York 17, N. Y. IEN-8044

HEAT TREATING . . . Quench tank with oil [illegible]; specifications, flow diagram. Catalog [illegible], 4 pages. Bell & Gossett Co., 42 Austin St., Morton Grove, Ill. IEN-8045

HEAT TREATING . . . Controlled atmosphere furnaces for malleable iron annealing; design points, examples. Bulletin ME, 4 pages. Holcroft & Co., 6545-47 Epworth Blvd., Detroit 10, Mich. IEN-8046

HEATING . . . Electric elements in rod, [illegible] types; sizes, ratings, list prices. Catalog, 16 pages. Tuttle & Kift, Inc., 1825-29 N. [illegible] Ave., Chicago 39, Ill. IEN-8047

HEATING . . . Surface condensers, condensate pumps, accessories; descriptive data. Bulletin W-300-B1, letterhead request, 68 pages. Worthington Pump, 423 Worthington, Harrison, N. J. IEN-8048

HONING . . . Abrasive stones, [illegible] by 1½ in.; preparation, suggestions on selection. [illegible], 4 pages. Mid-West Abrasive Co., 49 Industrial St., Owosso, Mich. IEN-8049

HONING . . . Tool for external honing on cylindrical work from 120 to 2.750 in.; data on three sizes. Bulletin [illegible] MAN 5008, 4 pages. [illegible] Products Co., 7902 Manchester Ave., St. Louis 17, Mo. IEN-8050

HUMIDIFYING . . . "Hum-i-Zone" machine for space humidification; cut-away drawing, operation. Bulletin 52, 4 pages. Daffin Mfg. Co., Fruitville Pike & Keller Ave., Lancaster, Pa. IEN-8051

INCINERATORS . . . Chain grate units with variable speed drive; construction points, assembly views. Bulletin, "Incinerators", 4 pages. McClave Co., 700 Mill St., [illegible], Pa. IEN-8052

LADDERS . . . Aluminum marine ladders and gangways; illustrated models and sizes available. Booklet, "Alu-Lite", 12 pages. Aluminum Ladder Co., 100 Carlisle St., Worthington, Pa. IEN-8053

LUBRICATING . . . Description and application data for a [illegible] lubricant [illegible]. Folder, 4 pages. American Grease Stick Co., 1134 Hoyt St., Muskegon, Mich. IEN-8054

LUBRICATING . . . Coolant pump in ball assembly for machine-tool application; description. Leaflet, "Lubri-King", 2 pages. W. A. [illegible] Co., 3060 James Ave., Minneapolis 11, Minn. IEN-8055

LUMBER . . . Pressure-treated [illegible] wood [illegible] for railroad track; drawings and details. Folder [illegible], 4 pages. Koppers Co., 2007 Koppers Bldg., Pittsburgh 19, Pa. IEN-8056

MARKING . . . "Mark-SAFE" [illegible] Bulletin [illegible], 4 pages. M. E. Cunningham Co., 90 E. Carson St., Pittsburgh, Pa. IEN-8057

METALS . . . [illegible] American Nickeloid Co., 49 [illegible] St., Peru, Ill. IEN-8058

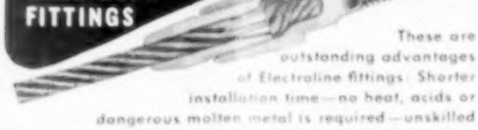
METALS . . . [illegible] Buffalo, N. Y. IEN-8059

METERS . . . [illegible] Fischer & Porter Co., [illegible] County Line Road, Hatboro, Pa. IEN-8060

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 59

▼ BREVITY—Identify by IEN - 7415 if you write the maker ▼

PUT ON IN NO TIME ... STAY ON FOR ALL TIME—
Electroline **WIRE ROPE FITTINGS**
minimize re-roping!



These are outstanding advantages of Electroline fittings: Shorter installation time—no heat, acids or dangerous molten metal is required—unskilled labor, using ordinary mechanic's tools, make connections in a matter of minutes. And these permanent wire-rope fittings prolong the life of rope by damping vibration and overcoming rope-fatigue at entrance to fittings—can be reclaimed and used over and over again.

Illustrated, pocket-size Catalog fully describes all advantages of Electroline wire rope fittings . . . send for your copy, today.

Electroline Company
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS

▼ BREVITY—Identify by IEN - 7416 if you write the maker ▼

Pounding or jarring won't loosen a Plasgon sealed pipe joint or gasket.

- Sets up firmly, yet stays flexible
- Proof against oil, gasoline, kerosene, water, steam
- Resists heat up to 350° F. and considerable pressure

FREE SAMPLE. Try Plasgon in your own shop on any job where you've got to have an absolutely tight joint. We'll send you a large tube—FREE. Just write a post card to Samuel Cabot, Inc., 855 Oliver Bldg., Boston 9, Mass.

SAMUEL CABOT, INC.

Also makers of **TASGON**—the quickest, most penetrating rust solvent on the market.

▼ BREVITY—Identify by IEN - 7417 if you write the maker ▼

Put these advantages in your product with *Marvinol*®

In hundreds of processes . . . in thousands of end products, Marvinol is giving processors the characteristics that mean sales. Marvinol formulations are stable under heat, light and time . . . have high dimensional stability, greater low-temperature flexibility, outstanding resistance to tear, wear, oils and acids. Let us show you how to utilize Marvinol's time-saving advantages. All technical information developed in our modern laboratories is at your disposal since it is through you that Marvinol reaches the consumer.

Write today for the latest technical information. Dept. I-8, Naugatuck Chemical, Naugatuck, Conn.

Marvinol

Naugatuck Chemical

DIVISION OF U. S. RUBBER COMPANY

▼ BREVITY—Identify by IEN - 7418 if you write the maker ▼

NEW PIPE FITTINGS
No threads to cut—No joints to weld

Here's the answer to speedy assembly of hand rails, guards, catwalks, permanent and portable structures. Nu-Rail fittings of Reynolds Lifetime Aluminum have a patented [illegible] feature that eliminates threading or welding. The three basic fittings illustrated, in combination with Reynolds Aluminum pipe, make fourteen different arrangements for most of your rail and structure requirements. Modified cross, end plug, base and wall flanges also available.

You save construction time and maintenance. No painting is needed and aluminum Nu-Rail assemblies are impervious to industrial fumes that usually attack other metals.

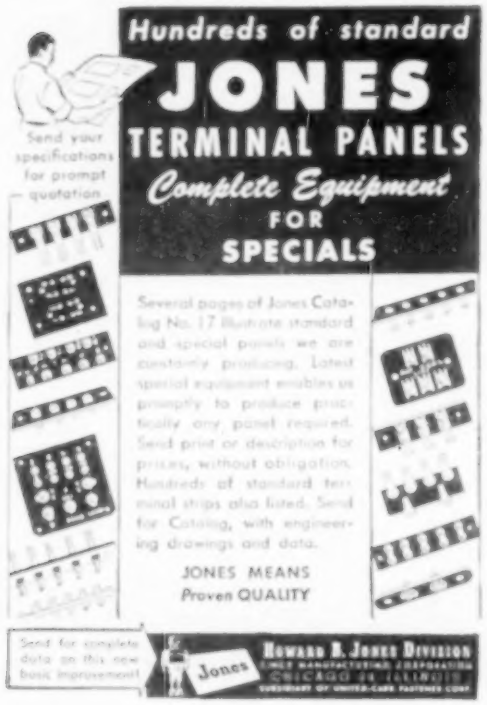
PACKAGED ASSEMBLY KITS

[illegible]

At Reynolds distributors (listed under "Aluminum" in your classified phone book) or write Reynolds Metals Company, 2555 South Third Street, Louisville 1, Kentucky.

REYNOLDS ALUMINUM

▼ BREEZIT—Identify by IEN-7419 if you write the maker ▼



▼ BREEZIT—Identify by IEN-7420 if you write the maker ▼

HOW TO GET LASTING PROTECTION FOR HOT SURFACES

THIS NEW FREE BOOK tells you why you need low viscosity, fast drying aluminum enamels with a bright finish to get maximum insulation and to avoid peeling and discoloration on surfaces where the temperature exceeds the boiling point. They must contain special heat-resisting ingredients.

We want you to know that there are differences in aluminum paints. In this book are many valuable facts about the types of aluminum paint: Aluminum Metal and Masonry Paint for moisture and abrasion resistance; Aluminum House Paint for maximum protection of weather-exposed wood; Aluminum Enamel for heated surfaces.

Alcoa does not make paint, but this book will help you get better value, better results from the paint you buy. In addition to information about types of paint, you'll find coverage tables, answers to painting questions and suggestions for savings through the use of the right aluminum paint for many industrial applications.

Just attach this coupon to your letterhead and this valuable book will be sent to you.

ALUMINUM COMPANY OF AMERICA
Paint Service Bureau, 1734H Gulf Bldg., Pittsburgh 19, Pa.
Please rush me free copy of: "Painting with Aluminum".
Name (Please print)
Address
City State
We plan to paint the following

Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.
The RIGHT aluminum paint for this job is ALUMINUM ENAMEL.
ALCOA ALBRON

NEW LITERATURE—Continued

"Note the special 'O' numbers on literature"

MIXING — Mixing units of glass for laboratory equipment: Bulletin 600, two, and pamphlet, "Pyrex Brand" 4 pages. Art Glass Inc., 1006-W N. W. 63rd., Portland 7, Ore. IEN-0065

MOTOR CONTROL — [illegible] IEN-0066

MOTORS — [illegible] IEN-0063

MOTORS — [illegible] IEN-0064

MOTORS — [illegible] IEN-0062

MOTORS — [illegible] IEN-0060

PAINTING — [illegible] IEN-0067

PAINTING — [illegible] IEN-0068

PAINTING — [illegible] IEN-0069

PIPE FITTING — "Pipeco Adapter" for repair-supply well to stop out ground water; drawing, folder. Bulletin 82, 4 pages. Williams Products Co., 708 Railroad St., Elyria, O. IEN-0070

PIPE FITTINGS — [illegible] IEN-0071

PIPE FITTINGS — [illegible] IEN-0072

PLASTICS — [illegible] IEN-0073

PLATING — Lead anodes for chrome plating; sectional style drawings, types, hook design. Folder 1017, 4 pages. Republic Lead Equipment, 765-E Joiner Rd., Cleveland 5, Ohio. IEN-0074

PRESS TOOLS — "Herman" [illegible] IEN-0075

PRINTING — [illegible] IEN-0076

PROCESSING — [illegible] IEN-0077

PROCESSING — [illegible] IEN-0078

PULVERIZING — [illegible] IEN-0079

PUMPS — [illegible] IEN-0080

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 50

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PIPE MARKERS anyone can use—everyone can read

QUIK-LABEL Pipe Markers conform to American Standards Association Pipe Identification System. QUIK-LABELS come on handy cards . . . stick without moistening. Names of materials printed in large black letters on correct ASA background colors. CAN BE READ UP TO 75 FEET. Markers for over 140 materials, *including all materials listed in ASA Standard A13,* available on Brady Stock Cards. Specials made to your order. QUIK-LABEL Pipe Markers are Silicone Plastic coated to resist dirt, grease, fumes, moisture . . . indoors or out. Replace slow and costly painting and hand stenciling. Exclusive Starter-Strip automatically releases part of label for fast peeling. QUIK-LABELS mark your pipes so that anyone who can read will know what's in them. *QUIK-LABELS leave no room for doubt . . . or tragedy.* Write for useful literature and FREE SAMPLES today.

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FOR EITHER EXTREME, OR CAPACITIES IN BETWEEN . . . LOOK TO STA-WARM

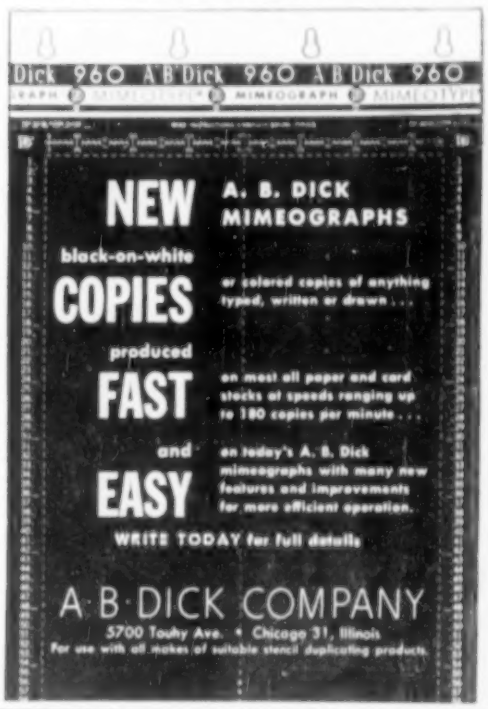
Any size of compound melter can be a Sta-Warm melter because "The Sta-Warm Method" of engineering and kettling heating, conveying and dispensing equipment for compounds has almost infinite flexibility.

Beyond matching your hourly to daily output requirements, Sta-Warm melting equipment will meet your temperature-range demands, your electric power supply, your production line set-up and your dispensing scheme.

For help in solving compound melting problems, look to Sta-Warm. Why not outline your problem today in a letter addressed to . . .

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST. • RAVENNA, OHIO

▼ BREEZIT—Identify by IEN-7424 if you write the maker ▼



▼ BREEZIT—Identify by IEN-7425 if you write the maker ▼

famco Model "612" METAL CUT-OFF BAND SAW Offers New Design Features

• Truly a finished machine tool, the Famco "612" Metal Cut Off Band Saw cuts all shapes, all types of metals. It's ruggedly built of semi-steel castings and alloy steel. Cast aluminum guards provide extra safety. Capacities up to 6" round and 6" x 12" rectangular stock. Made in the typical Famco tradition of "the highest quality machine for the money."

A Few Famous Famco Features

Open construction for easy access; support stock vise for quick setting; precision sawing. [illegible] blade; coolant system added in a [illegible] inspirited design makes saw blade changes. Towards rotor bearing mounted [illegible] quick setting [illegible] blade guard telescopes automatically. [illegible] and 300 FPM [illegible] speeds; vise jaws adjust to 45° angle.

Write for Free Catalog

FAMCO MACHINE CO., 1303 18th St., Racine, Wis.
famco COST CUTTING machines
ARBOR PRESSES • DRILL PRESSES • METAL CUT-OFF SAWS
POWER PRESSES • FOOT PRESSES • SQUARING SHEARS

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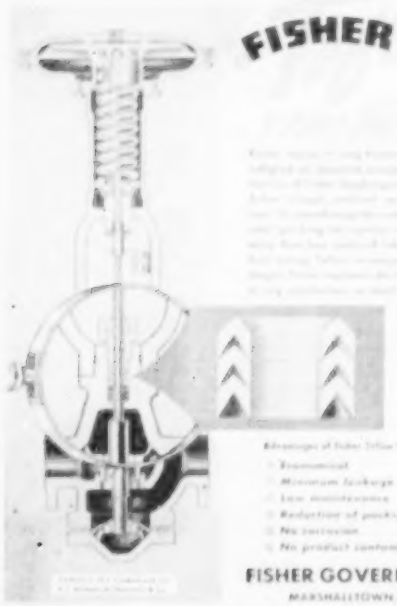
IT'S *New* AND A *Natural*



Advantages of Fisher Teflon V-ring packing:
- Economical
- Minimum leakage
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- Reduction of packing friction
- No corrosion
- No product contamination

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MARSHALLTOWN, IOWA

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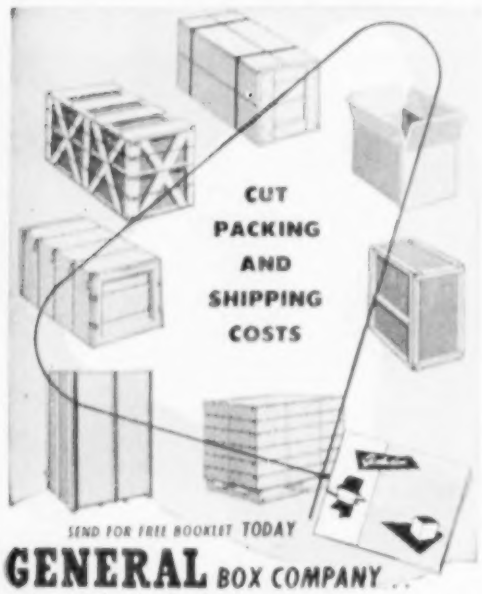

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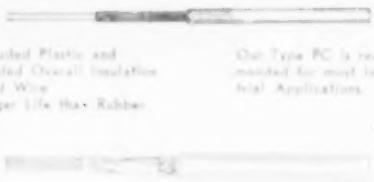
★ ★ ★ ★ ★ engineered shipping containers

GENERAL OFFICES: 508 N. Dearborn St., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Cincinnati, Dunellen, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon. Continental Box Company, Inc., Houston, Dallas. General Box Company of Mississippi, Meridian, Miss.

▼ BRIEFIT—Identify by IEN - 7428 if you write the maker ▼

Increase Durability of Thermocouple Lead Wires

More durable insulation of lead wires means: greater permanency, less replacements.



Extruded Plastic and Braided Overall Insulation Solid Wire. Longer Life than Rubber.

Our Type RC is recommended for most Industrial Applications.

Our Type PPFT is suggested when extreme flexibility as well as long life is required.

Plastic Insulated with Extruded Overall Covering. Stranded Duplex Twisted Wire. Approximately ¼" dia.

These and other Thermocouple Lead Wires are made of standard thermocouple materials and insulated with asbestos, fiberglass or cotton. Write for Wire Section 30K.

Outstuff us for Thermocouples, Pyrometers and Accessories.

Thermo ELECTRIC CO.
FAIR LAWN, N.J.

NEW LITERATURE—Continued

"If it isn't listed here, ask us"

PUMPS . . . Centrifugal vacuum pumps, 1 to 28 in. Hg., to 10,000 cfm.; performance curves. Bulletin 50-B, 12 pages. Roots-Connersville Blower Corp., 900 W. Mount, Connersville, Ind. IEN-0001

PUMPS . . . Hand and power units—dispense petroleum products; motion standard specifications. "General Catalog", 16 pages. W. G. John M. Williams Sons Inc., 56 Industrial St., Lancaster, Pa. IEN-0002

REAMING . . . Hole reamer in 2 nominal sizes, 0401 to 1.500 in. diameters, for power. Folder, "Reamer", 2 pages. Everlasting Cemetery Mfg. Co., 2720 Montrose Avenue, Chicago 18, Ill. IEN-0003

REFRIGERATION . . . Description "Cross-Head" shaft seal used on compact compressors, drawings, pictures. Folder Bulletin 102-C, 4 pages. Frick Co., 256 Broadway, Waynesboro, Pa. IEN-0004

SANDING . . . Pneumatically force on sand and polish irregular surfaces; description, reports. Bulletin 80, 4 pages. Universal Motor Tool Corp., Allen & Mullins Ave., Indianapolis 2, Ind. IEN-0005

SCAFFOLDS . . . Tubular steel standard towers and accessories; drawings, dimensions, typical installations. Catalog, 8 pages. Ric-Wil Inc., 102 Wade Rd., Archbold, Ohio. IEN-0006

SCREW DRIVING . . . Hopper-fed power screwdriver models, fixtures, hoppers, special machines. Catalog, 16 pages. Detroit Power Screwdriver Co., 2800 W. Fort St., Detroit 16, Mich. IEN-0007

SCREW MACHINE PARTS . . . Screw-up Swiss-type machines, production facilities, examples. Leaflet, 6 pages. Specialty Screw Machine Products, 16-30 Dolphin St., Lancaster, Pa. IEN-0008

SEPARATING . . . Permanent-magnet drum-type unit; dimensions, operating design. Catalog C-100 A, 8 pages. Dings Magnetic Separator Co., 4708-42 W. Roosevelt Ave., Milwaukee 14, Wis. IEN-0009

SHEARING . . . Pivoted-blade shearing machine; operating principle, construction, ratings. Catalog 203-C, 8 pages. Cleveland Crane & Eng. Co., 1127 E. 200rd, Wickliffe, Ohio. IEN-0010

SPRAYING . . . Nozzles for process and air-conditioning; materials, spray patterns, performance data. Catalog 40, 12 pages. Delavan Mfg. Co., 3007-31 Sixth Ave., Des Moines 19, Iowa. IEN-0011

SPREADING . . . Hose spreading machines, remote presses, mitters, clamps, carriers, distributors. General Catalog, 136 pages. Black Bros. Co., 900-10 Stuart St., Menlora, Ill. IEN-0012

STAMPINGS . . . Die-cut name plates, actual-size examples, lettering on first and second hundred. "Name Plates", 4 pages. Dayton Rogers Mfg. Co., 2632-37 19th Ave. S., Minneapolis 7, Minn. IEN-0013

STEELS . . . Rolled and forged manganese steel; pictures and sizes on plates, bars, parts. "Rol-Man", 8 pages. Manganese Steel Forge Co., Cecil St. & Richmond, Philadelphia 34, Pa. IEN-0014

STORING . . . Steel racks built from company's framing and fittings, standard parts, examples. Catalog 600, 24 pages. Unarco Products, 601-G W. Washington, Chicago 7, Ill. IEN-0015

STRAINERS . . . Pipe-line units with woven Monel wire screens; sizes, ratings, installation suggestions. Bulletin 6-205, 6 pages. Yarnall-Waring Co., 122 Mermaid, Philadelphia 18, Pa. IEN-0016

STRAPPING . . . Tools, machines for round steel strapping; application pictures. "Blue Book", interbrand request, 24 pages. Gerrard Steel Strapping Co., 2027 W. 47th, Chicago 32, Ill. IEN-0017

SWITCHBOARDS . . . Standardized units for electric power generation and control; descriptions. Bulletin 18-B-2140A, 8 pages. Allis-Chalmers Mfg. Co., 900 S. 70th St., Milwaukee 14, Wis. IEN-0018

TAPES . . . Fiberglas-reinforced paper adhesive tape; properties, illustrated uses in strapping. "Permacel 19", 4 pages. Industrial Tape Corp., Highway One, New Brunswick, N. J. IEN-0019

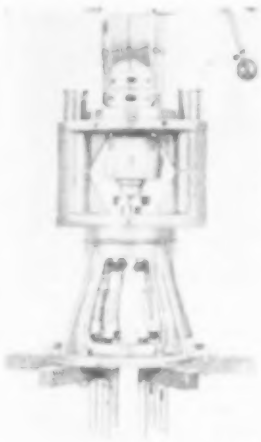
TESTING . . . "Megger" electric insulation tester; schematics, test methods, scales, accessories. Bulletin 21-20, 24 pages. James G. Biddle Co., 1316-18 Arch St., Philadelphia 7, Pa. IEN-0020

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 30

▼ BRIEFIT—Identify by IEN - 7429 if you write the maker ▼

WM. A. FORCE AND COMPANY
INCORPORATED
64 WHITE STREET, NEW YORK 13, N. Y.

▼ BRIEFIT—Identify by IEN - 7430 if you write the maker ▼



NEW
TAP or DRILL
UNIT by
THRIFTMASTER

Features . . .
1. Attaches to Any Drill Press
2. Automatic Reverse for Tapping
3. Drills or Taps Set-Up
4. Spindle Adjustable to Infinite Variety of Patterns
5. Increases Drilling and Tapping Production 2 to 6 Times Performance . . . Lowers Cost
6. Light as Heavy Duty Up to 1" Capacities—2 to 10 Spindles

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COMPLETE LINE
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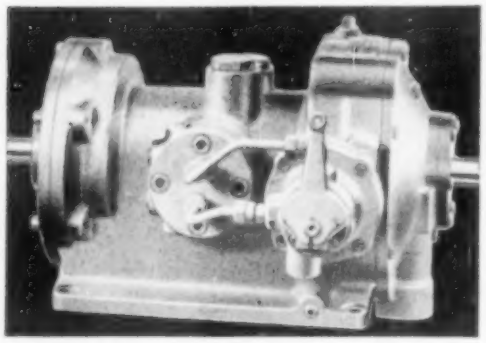
DORMAN AUTOMATIC REVERSE TAPPERS
4 Sizes • Friction & Positive Drives • Capacity ¼-24 to 2" in Steel

▼ BRIEFIT—Identify by IEN - 7431 if you write the maker ▼

New! Small!



Oilgear Fluid Power Transmissions

Two-way variable speed. Up to 3 h.p.
Output 0 to 1600 R.P.M. (Reversible)
Lighter · Simpler · Sturdier · Smoother

The outstanding fact about these new, small and versatile Oilgear Fluid Power Transmissions is that during the past 5 years more than 100 thousand similar units have been built, tested and *proved* in the toughest trials devised by man. They weigh only 90 lbs. They are ruggedly constructed throughout, simple in design, dependable in performance, smooth in operation. These compact units are complete, enclosed and sealed against dirt, with integral relief valves in the fluid passages for protection against overload.

These transmissions efficiently convert a constant rotary motion into accurately controllable variable rotary motion. They provide smooth, stepless, uniform acceleration from zero to maximum in either direction. Their positive drive is not affected to any appreciable degree by variations in load. They use little power, and always in proportion to work done.

They provide flexibility of location with convenient nearby or remote control and offer a choice of manual, electric or hydraulic control. They provide quick, uninterrupted reversal . . . and a host of other advantages.

These transmissions are now used on starch machines, blowers or heavy industries, wire rewinders, spring coiling machines, furnace drives, material supply pumps, jaw-saw feeds, grinding wheel head drives and many other machines and processes. THE OILGEAR COMPANY, 1567 W. Pierce Street, Milwaukee 4, Wisconsin.

Ask for New Bulletin

Bulletin 67110 completely describes the new small Oilgear Fluid Power Transmission. A copy will be sent free at your request. Write today.

Oilgear Fluid Power

PUMPS, MOTORS, TRANSMISSIONS, CYLINDERS AND VALVES

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READINGS AT A GLANCE

for BOTH AC and DC

Instant Current Measurements Without Breaking Circuit or Insulation . . .

You can read, on fast and accurate with the Columbia Tong Test Ammeter by merely clamping the tongs around the electrical conductor. Tong Test is the only instrument of its type that can measure both AC and DC. Cannot burn out for it has no windings. Safe, convenient and light in weight. Interchangeable scale ranges up to 1000 amperes. Five types to accommodate cables up to 1 3/4", bus bars up to 4 1/2" x 1/2". Voltage readings, too, with the Voltor Attachment.

Write for Tong Test Bulletin IQ-400

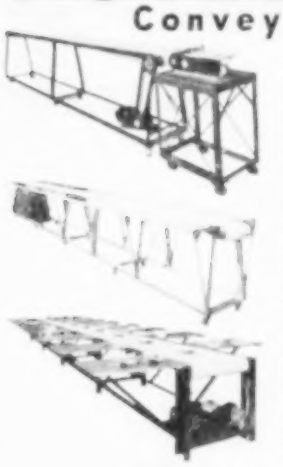
COLUMBIA ELECTRIC MFG. CO.
4519 Hamilton Ave., Cleveland 14, Ohio

BREEFITT—Identify by IEN - 7434 if you write the maker

Keep production on the move with

POTDEVIN

Conveyors



Today the trend is toward automatic movement of materials from stock room to shipping departments. Release unproductive personnel to more profitable positions. POTDEVIN Conveyors are used for light assembly work and in sorting, inspection and packing departments. Installation is simple. Belt speeds are adjustable. Many POTDEVIN Straight-Line Conveyors are portable giving you greater flexibility in plant layout. Write for complete literature.

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1213 38th St., Brooklyn 18, N. Y.

Designers and manufacturers since 1893 of equipment for Bag Making, Printing, Coating, Gluing and Labeling.

BREEFITT—Identify by IEN - 7435 if you write the maker

ALL THESE CARTONS CLOSED IN LESS THAN 1 MINUTE

● If variable carton sizes are used in your shipping, you are losing money every day you do not have an International Retractable Anvil Staple Machine—saves time, automatically adjusts for size variations; one operator closes 400 cartons per hour—saves space, cartons remain flat until ready for use—saves damage claims, meets Consolidated Freight and Postal Regulations.

Your inquiry will result in one of our distributors showing you exactly how one of our more than thirty models will save you money and give you a neater and stronger carton closure.

INTERNATIONAL STAPLE & MACHINE CO.
HAVERTOWN S. PENNSYLVANIA
EST. 1938

NEW LITERATURE—Concluded

"Send us your own new literature for review"

TESTING . . . Thermometers and components for electronic work; also Variacs. Catalog 300, 100 pages. Bulletin 7B-4, 24 pages. Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia 44, Pa. IEN-01001

TIMING . . . Electric point timers, general purpose, clock, flow-rate, synchronizers, etc. Catalog 500, 8 pages. Harlan Mfg. Co., 201 E. 19th St., Tuscaloosa, Ala. IEN-01002

TRANSFORMERS . . . "Transtat" variable autotransformers, 20 to 3.5 kva, using tube compression. Folder 1001, 4 pages. Superior Electric Co., 82 Hamlin Ave., Bristol, Conn. IEN-01003

TRAYS . . . Electric conductor trays, materials, data, types and sizes, installation techniques, specifications. Catalog E. 32 pages. Fenkle Mfg. Co., 1000 Heights Blvd., Cleveland 12, Ohio. IEN-01004

TUBES . . . Expansion controls (Swage) for Cochin metal tubes; uses, installation instructions. Folder 49, 4 pages. Bridge-Perquin Inc., 6 Wilmot St., Trenton, N. J. IEN-01005

TUBE FITTINGS . . . Clamp-type "Jaxon hard coupling" types, specifications, test standards. Bulletin Wilcoby 50, 16 pages. Marman Products Co., 428-32 W. Florence Avenue, Inglewood, Calif. IEN-01006

VALVES . . . Impulse-proof relief valves for compressed work; data, installation. Bulletin 4-300, 4 pages. Automatic Valve & Eng. Co., 1140-52 W. Harrison St., Chicago 22, Ill. IEN-01007

VALVES . . . Exterior indicating and signaling valves for water, air, gas, construction, apparatus. Bulletin 200, 8 pages. A. W. Cash Valve Mfg. Corp., Bolivar & Wabash, Decatur 60, Ill. IEN-01008

VALVES . . . Automatic operators for throttling control mirror, manifolds, drainage, leakage. Bulletin 104, 8 pages. Clayton Corp., 6th and St., Flemington, N. J. IEN-01009

VALVES . . . Blowdown valve for water, steam, operating engines, tanks. Bulletin 4-1, 8 pages. Jenkins Anderson Valve Specialty Co., 1111 Sisters Bldg., Pittsburgh 30, Pa. IEN-01010

VALVES . . . Rigid low-mind valve, cut away view to show operation, dimensions and for types. Bulletin 100, 4 pages. Hamer Oil Tool Co., 2011-21 Gardena, Long Beach 6, Calif. IEN-01011

VALVES . . . Solenoid Gate for liquids and steam to 450 deg. F.; cut-away view, sizes, schematic diagrams. Bulletin V, 8 pages. Johnson Corp., 800 Wood St., Three Rivers, Mich. IEN-01012

VALVES . . . Pneumatic operating valves; models, dimensions, characteristics, application information. Catalog 1004, 32 pages. Logansport Machine Co., 800 Erie, Logansport, Ind. IEN-01013

VALVES . . . For petroleum pipe lines; design points, construction, specifications, typical uses. Bulletin V-200, 40 pages. Nelson-Irrer Valve Inc., 302 N. Lexington, Pittsburgh 6, Pa. IEN-01014

VALVES . . . Solenoid two and three way valves, stainless steel design, dimensions, performance chart. Bulletin 501, 6 pages. Skinner Electric Valve, 36-42 Beaver, Newark, Conn. IEN-01015

WATER TREATING . . . Effects sodium phosphate material to prevent iron oxide formation. Five examples. Folder 101-1, 4 pages. Chemical Inc., 1000 Bigelow Bldg., Pittsburgh 19, Pa. IEN-01016

WELDING . . . Electrode holders, protective clothing, tools; illustration data. "Welding Accessories", 36 pages. Metal & Thermit Corp., 100 E. 42nd St., 37th Flr., New York 17, N. Y. IEN-01017

WIRE DRAWING . . . Tungsten carbide dies; specifications and list prices on round hole units to 0.5 inches. Catalog D-700, 4 pages. Adamas Carbide Corp., 306-30 E. 4th, Hartford, N. J. IEN-01018

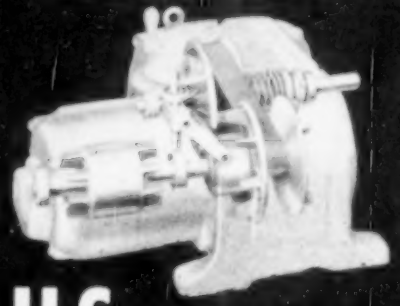
WIRES . . . "Formex" and "Insulbestos" magnet wire; properties, application data, wire tables. Booklet 19-020, 32 pages. General Electric Co., 1285-87 Boston Ave., Bridgeport 1, Conn. IEN-01019

WOOD WORKING . . . Portable carbide band saws and belt sanders, models, specifications. Catalog 200, 32 pages. Carter Carbo Stellite Co., 1701 N. W. Vaughn St., Portland 9, Ore. IEN-01020

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

BREEFITT—Identify by IEN - 7436 if you write the maker

GET 10 HOURS WORK IN 8



U.S. VARIDRIVE MOTOR — 1 to 10,000 R.P.M.

PRECISELY THE RIGHT SPEED FOR EACH AND EVERY OPERATION INSTANTLY

Ask for Descriptive Bulletin

U.S. ELECTRICAL MOTORS, Inc.
Los Angeles 54, Calif. Milford, Conn.

BREEFITT—Identify by IEN - 7437 if you write the maker

Yes! It's Hot Now

BUT IT'S HIGH TIME TO INSTALL EFFICIENT "Buffalo" UNIT HEATERS

BREEZO-FIN UNIT HEATER

● If you didn't have adequate, trouble-free heating last winter, RIGHT NOW is the time to write for all details on "Buffalo" Unit Heaters. Compact BREEZO-FIN Heaters operate efficiently on 2 to 10-lbs. steam pressure. Adjustable louvers. Rugged, efficient "Buffalo" Breezo Fan mounted behind coils—blows heat into where you need it. 20 sizes. WRITE FOR BULLETIN NOW!

BUFFALO FORGE COMPANY
496 Broadway, Buffalo, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Branch Offices in all Principal Cities

"Buffalo" UNIT HEATERS

BREEFITT—Identify by IEN - 7438 if you write the maker

NOW! A wiping tissue 100% grit-free

To make your cleaning operation efficient—economical. Fresh! Soft! Dependable! Kimwipes* industrial wiping tissues. Polish finished surfaces without scratching. Blot up to 15 times their weight in liquids. And so inexpensive, you can use a new tissue every time.

Write for further information and name of the Kimwipes distributor near you.

Kimberly-Clark Corporation, Neenah, Wisconsin

BREEFITT—Identify by IEN - 7439 if you write the maker

The NEW HYSTER GRID ROLLER

Revolutionizes Black Top Salvage Jobs

HOW IT WORKS . . . WHAT IT DOES

1 Black top is scarified by motor grader rolling Grid Roller.

2 Scarified black top is pulverized to a maximum of small "chips" by Grid Roller.

3 Pulverized black top is moved forward—road bed cleaned by motor grader—compacted by Grid Roller.

4 Windrow is moved and re-spread, material mixed, rolled and then compacted by Grid Roller. Ready for seal coat.

SAVES UP TO 50% IN TIME RECLAIMS MATERIAL

1 In one day one man with motor grader and Grid Roller can salvage and prepare one mile of black top road for sealing.

2 Grid Roller produces greater abundance of fine material.

3 Dry usage reduced up to 75% of a gallon per mile particular one county road job is saving of $185 per mile on oil was effected.

4 Grid Roller salvages all types of black top material. No need to haul away old material.

Sold exclusively by your "CATERPILLAR" DEALER. CONSULT HIM FOR FACTS, FIGURES, LITERATURE.

HYSTER COMPANY
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▼ BREVITY—Identify by IEN-7440 if you write the maker ▼

Gets more heat out of the steam and more production out of steam equipment. The inexpensive, highly efficient trap that gives quick starts because it's wide open when cold. Capacities recently doubled. Can't freeze. No seat changes required when pressure changes. Catalog No. 250.

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
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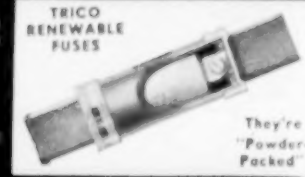
IMPROVES PRODUCT QUALITY AND OUTPUT

▼ BREVITY—Identify by IEN-7441 if you write the maker ▼

Check the Fuse You're Using Against these TRICO Features



Don't be "short-changed" on protection

Link Protection — Fusible link protected against damage. Therefore, no needless fuse blowings.

Safe Time-lag — Just right. Prevents accidents or destruction of expensive equipment.

Tamper-proof — Only ONE link of CORRECT size can be inserted. "Doubling up" is dangerous.

TRICO Safety FUSE PULLERS
They're cheap insurance against shock, burns, blindness & possible death.
WRITE FOR BUL. NO. 5

YOU GET THREE TIMES THE SERVICE . . .
in TRICO Renewable Fuses you get that "different" link. It's custom-built, powder-packed, tamper-proof, non-interchangeable with Pyrotechnical SAFE time-lag. That's why TRICO gives dependable, trouble-free protection with THREE TIMES THE SERVICE.

Get the complete story.
WRITE TODAY FOR BOOKLET 206-A

TRICO FUSE MFG. CO.
MILWAUKEE, WIS. U.S.A.

▼ BREVITY—Identify by IEN-7442 if you write the maker ▼

NUGENT Double End Oil Pumps

- Simultaneously pump two liquids without mixing.
- Or pump a single liquid at double capacity.

Simple, dependable Nugent Double End Pumps offer the economical way to solve many pumping problems. There are no air pockets, consequently pump can be operated at higher speeds without air binding. Easy to mount or disassemble. Stroke is easily adjustable. No cup leathers or soft packing to determinate. Maximum capacity 95 gph at each end. Write for complete details and descriptive literature.

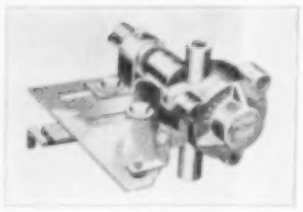
Wm. W. Nugent & Co., Inc.
418 N. Homan Ave. CHICAGO 22, ILLINOIS

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . Representatives in Principal Cities

▼ BREVITY—Identify by IEN-7443 if you write the maker ▼

PUMP . . Rubber impeller rotary, self-priming, rates 4 gpm., 1,160 rpm.

Source: JABSCO PUMP CO.
2029-33 N. Lincoln, Burbank, Calif.



Neoprene impeller, bronze body, stainless steel wear shaft and assembly with a pulley for belt drive. The rubber impeller is the new assembly of the company's smaller pump. The design is intended primarily for service in engines to remove water to the spray heads or paddle. Connection can be made to the smaller sizes of motor direct to the shaft of the motor in this model. A motor equipped to reverse the water flow when boating is highly desirable, it should be.

List price is a list for models at $146 (for an engine) to $182.25. It is $10.25 for the bare drive pump (shown) in gear connections. The discount series was $7.75.

▼ BREVITY—Identify by IEN-7444 if you write the maker ▼

CLEANING . . Liquid solution for goggles, respirators, helmets

Source: AMERICAN OPTICAL CO.
12-16 Mechanic St., Southbridge, Mass.

Not an irritant on user's skin

Germicidal Detergent Solution has been developed to clean and also to sterilize optical protection equipment. Application removes dirt, deposits of sick skin. It will not stain or cause deterioration to rubber, plastic, metal parts. The liquid can be sprayed, wiped, or the parts to be cleaned can be immersed. It has no odor.

One gallon will make 64 gal. of cleaner by mixing with hot or cold water. The formula is a little more effective. Packaging is in gallon containers or in 2 oz. bottles.

▼ BREVITY—Identify by IEN-7445 if you write the maker ▼

HEATING . . Induction machine rates 1 kw., for brazing, heat treating

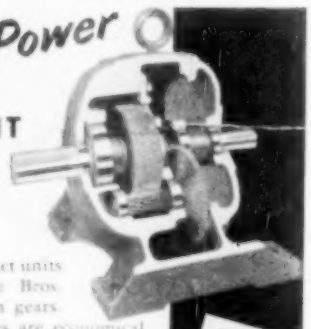
Source: LEPEL HIGH FREQUENCY LABORATORIES INC.
39 W. 60th St., 6th Fl., New York 23, N. Y.

List price is $780 for this new small unit in the company's line of electronic induction heating equipment. It will braze carbide tips to 3/8-in. square shanks, will melt 1 oz. of steel or brass in 4 minutes. It will heat a 1-in. length of 3/8-in. round steel to 1,800 deg. F. in 5 seconds. Operation is on 50-60-cycle 110-volt single-phase a.c. with input of about 18 amperes. Output is rated at 1 k.w. at 200 kc. Overall size is 20 by 30 by 20 inches.

All Makers of Items And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 34

▼ BREVITY—Identify by IEN-7446 if you write the maker ▼

Line-O-Power STRAIGHT LINE DRIVES



A new line of compact units incorporating Foote Bros. Duti-Rated precision gears. Line-O-Power Drives are economical in original cost and economical to operate. Large capacity antifriction bearings and husky output shafts assure maximum overhung load capacity. Double and triple reductions for capacities from 1 to 200 h.p. Ratios from 5 to 1 up to 238 to 1 are available for prompt delivery.

FOOTE BROS. GEAR AND MACHINE CORPORATION
Dept. IEN 446 S. Wolcott Blvd., Chicago 9, Ill.

WRITE for BULLETIN LPA

FOOTE BROS.
Better Power Transmission through Better Gears

▼ BREVITY—Identify by IEN-7447 if you write the maker ▼

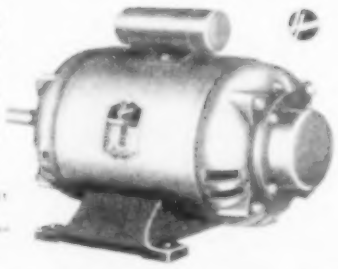
AL ROUND THE GLOBE Hoover
WORLD WIDE SERVICE GUARDS YOUR GOOD NAME

From Africa to Australia, wherever your products go, their reputation often depends on the performance of the electric motors you have to power them. That's why so many manufacturers specify HOOVER Motors, backed by Hoover's World wide Service Agency System.

Of course, Hoover Motors are famous for reliability. But when their necessarily 25 trouble — on their assurance is with ANY motor. There's always a Hoover Service Agency at hand to restore operation in a jiffy, to help guard YOUR good name. Write for details today.

Motors made by Kingston Conley Division of the Hoover Company have long been known as "K.C. Motors." In the future they'll be called "Hoover Motors." Their quality, however, continues as high as always — and leading in the industry.

THE HOOVER COMPANY
North Canton, Ohio
Kingston-Conley Division
78 Brook Avenue
North Plainfield, N. J.



▼ BREVITY—Identify by IEN-7448 if you write the maker ▼

FREE! and IMPORTANT

Right now! Write for your FREE copy of this informative, well illustrated brochure that points up the many uses and advantages of

Clearsite PLASTIC Selling Containers

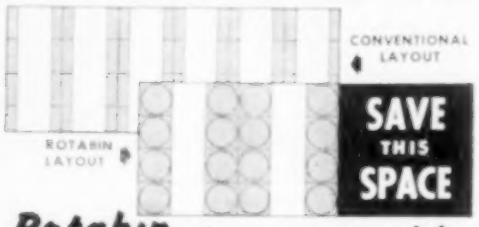
for the packaging of drills and tools, industrial jewels, taps and dies, screws, springs, nozzles, valves, fine machine parts, fishing tackle, electrical parts, and many, many others.

Clearsite is made only by

CELLUPLASTIC CORPORATION
32 AVENUE L • NEWARK 5, N. J.
America's #1 Source For Plastic Containers • Established 1919

▼ BREVITY—Identify by IEN-7449 if you write the maker ▼

TURN STOREROOM AISLES INTO EXTRA SPACE



Rotabin *storage saves aisles*

Mine the "gold" that's in your plant! Get extra space for storage or production without increasing overhead. Reduce servicing time and waiting time, step up plant efficiency.

SEND FOR COMPLETE DATA

FOLDER 220 is a "gold mine" of storage helps. Fully illustrated.

THE FRICK-GALLAGHER MFG., CO.
WELLSTON, OHIO

SALES AND ENGINEERING
409 Shubert Bldg., Phila. 2, Pa.

BRIEFIT—Identify by IEN-7450 if you write the maker

For years Ex-Cell-O has been known by American industry as headquarters for precision-made bushings . . . Ex-Cell-O carries one of the largest and most varied stock of drill jig bushings available in the world.

EX-CELL-O CORPORATION • DETROIT 32, MICHIGAN

BRIEFIT—Identify by IEN-7451 if you write the maker

YOUR BEST BET

to get simple, inexpensive speed control from *a-c power*

Two and a machine whose weight could be increased or performance improved by changing a simple low cost adjustable speed drive?

A General Electric 10-Cycl-ACA motor might be the answer. Look at these points in its favor:

IT RUNS ON A-C POWER! No commutator, no gears, no belts, no maintenance. Motor has sealed electrical connections, simply the shaft to the load, and the ACA is ready for work.

YOU DIAL THE SPEED! A simple twist of the dial on top of the motor gives you any speed, up to 10:1. Load will hold it there because torque increases with load changes.

IT'S A REAL "PACKAGE" DRIVE! The entire drive, including motor, control, is enclosed in a single housing, only slightly larger than a comparable speed reducer of the same rating.

WANT MORE INFORMATION?

Here's what to do: THAT, write us for a copy of Bulletin GEA-7355 with E. Just mention the ACA motor, or, if you want to know more about adjustable speed transmission, ask for Bulletin GEA-7356, SECOND. It will tell the story of a complete selection, using adjustable speed motors, Ex-Cell-Ox, Differentials, Dynamic Control, Electric Clutches, etc. Address: General Electric, Schenectady, N. Y.

Quick Facts
ABOUT GENERAL ELECTRIC ACA MOTORS

SPEED RANGE 3:1 and 10:1 (see Bulletin 7357 Schenectady)

HORSEPOWER 1/4 to 7½

VOLTAGE 220, 440 or 550 volts . . . 60 cycle 3 phase power

STARTING Full voltage (Second step needle when creeping speeds are required)

SPEED REGULATION 3 to 10 per cent on the high speed setting

The ACA motor is one of a complete line of General Electric adjustable speed drives

GENERAL ELECTRIC
640-11

BRIEFIT—Identify by IEN-7453 if you write the maker

TIMING . . Motor driven cam adjusts to operate double throw switch

Source: INDUSTRIAL TIMER CORP
117 Edison Place, Newark 5, N. J.

Series CM is a new assembly of synchronous motor, timer, disappearing-contacting cam, adjustable cam and a single-pole double-throw snap-acting switch rated at 15 amps at 125 volt 60 cycle ac. The mechanism is mounted on a ground steel base, measuring about 3½ x 2¾ x 3½ inches.

The cam is adjustable for "on-off" cycle in equal increments by self-contained "ear." In employing design about six 2 per cent of the standard catalog stocked in quantity, in each is either direction. Some fifty interchangeable assemblies of parts are available to meet operation requirements.

BRIEFIT—Identify by IEN-7454 if you write the maker

PROTECTING . . Filter glass for welder's helmet filters arc light

Source: GENERAL SCIENTIFIC EQUIPMENT CO.
2785 W. Huntingdon St., Philadelphia 32, Pa.

List price is 90 cents

Welding Plate designates new cover glass for use in a welder's shield or helmet to filter out harmful rays from the electric arc. The unit is 2 by 4¼ in. or 2 by 4¼ in. in width and length for two available sizes.

BRIEFIT—Identify by IEN-7455 if you write the maker

LADDER . . Made of aluminum in riveted assembly, 4 to 12 ft. units

Source: LOUISVILLE METAL PRODUCTS CO.
1099-103 W. Oak St., Louisville 10, Ky.

Channel rails and formed steps and brace members, with the exception of the side extension braces are made of aluminum. Of this new ladder. It is designed for light duty industrial use and is in five heights from 4 to 12 feet. All but the 4-ft. unit have pail shelves. Base widths are 19½ to 31½ inches. Weights are 9 to 32 pounds. List prices is $12 to $42. Duty-free coated the floor.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

BRIEFIT—Identify by IEN-7456 if you write the maker

For *high production with precision*—put the work on Kent-Owens Milling Machines! They're designed for rapid, easy set-up and operation. Rugged . . . with twin-post head mounting that assures balanced load—no chattering. Practical features throughout to help you *produce more . . . save labor . . . and reduce costs!* Write for bulletin. Kent-Owens Machine Co., Toledo, Ohio.

No. 2-20 Milling Machine
Table, 42" x 12"
Table travel, 20"

KENT-OWENS

Milling Machines

BRIEFIT—Identify by IEN-7457 if you write the maker

★ Rated 4160 volts, 600 amps, 3 and 4 poles

SIMPLIFIED CONTACT DESIGN means low maintenance. Contacts are self-cleaning, easily accessible, have high thermal absorption. Every breaker factory tested.

Manual or solenoid closing. Automatic or manual trip. Choice of mountings. Get bulletin 71B6342A.

Other A-C breakers in ratings up to 250,000 volts and 5,000,000 kva interrupting capacity. A-5109

ALLIS-CHALMERS, 909A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

BRIEFIT—Identify by IEN-7458 if you write the maker

Deadens noise and vibration

Increases machinery life due to reduced vibration

Saves time on installation and maintenance

Tests have proven that "Controlled vibration means increased productivity and decreased maintenance costs." That is why the new Empco Jacks, featuring VI-SORB, the vibration absorbing mounting pads, now sells many times their initial cost. With the combined features of Empco's self-aligning, two-way control Jacks and VI-SORB pads, set-up, and maintenance costs are greatly reduced. For complete data and prices on the new Empco Jack with VI-SORB pads, write or wire today. Immediate delivery.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

BRIEFIT—Identify by IEN-7459 if you write the maker

A NEW BOOK TO HELP YOU CUT COSTS

This new booklet on Rex Stock Sprockets gives you all the details on how chain sprockets will add life to your chain drives. Use in either highest quality gear motor or long wearing Rex Transmission. There is a correct Rex Sprocket for every chain in our complete line.

The booklet includes complete specifications, prices and ordering information. Send for a copy using coupon below.

REX CHAINS and SPROCKETS

CHAIN BELT COMPANY
1609 W. Bruce Street, Milwaukee 4, Wis.

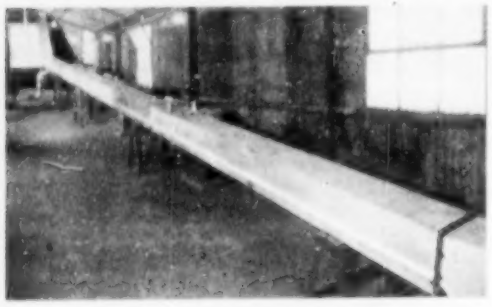
Please send me a copy of Bulletin No. CC-101

Name
Company
Address
City

▼ DREFITT—Identify by IEN - 7460 if you write the maker ▼

MUELLER BRASS CO. PORT HURON, MICH

▼ DREFITT—Identify by IEN - 7461 if you write the maker ▼



1-hp. to convey 90 tons/hr.

This F-H Airslide Conveyor in a cement plant, conveys cement raw materials from pulverizers to storage. Note the three-side discharge valves, which may be set either to direct entire material flow through one spout, or divert any portions of the material stream to obtain a desired distribution to bin below the floor.

Minimum power—only 1 hp. to convey 90 tons an hour. Not only a maximum saving in power but the Airslide eliminates many moving, hazardous parts, lubrication, repairs, and supervision . . . reduces dust-raising and costly labor charges . . . simplifies the problem of spare parts from a cost, handling, and storage standpoint.

For low cost conveying, we suggest you investigate this modern method of material handling.

FULLER COMPANY, Catasauqua, Pa.
135 S. LaSalle St., Chicago 3
430 Chronicle Bldg., San Francisco 4

fuller

▼ DREFITT—Identify by IEN - 7462 if you write the maker ▼

How to save money in RELINING OLD FURNACES

IT'S EASY to cut down on furnace relining costs if you use B&W Insulating Firebrick. B&W IFB can be cut with ordinary woodworking tools . . . are easy to handle and fit into place. This alone saves you valuable dollars in production time and labor costs.

B&W IFB save on fuel, too. They have the highest insulating value of any refractory in their class and because of their light weight reach operating temperature quickly, reducing total cycle time, increasing production time available.

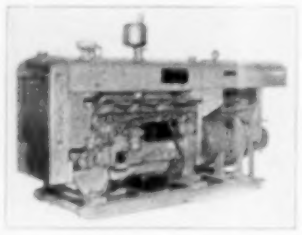
WRITE today for full information on B&W Insulating Firebrick. Ask for Bulletin R-2-H.

THE BABCOCK & WILCOX CO.
85 LIBERTY STREET, NEW YORK 6, N. Y.
WORKS: AUGUSTA, GEORGIA

▼ DREFITT—Identify by IEN - 7463 if you write the maker ▼

GENERATOR . . Diesel engine driven, rates 20 kw., 120/208-volt 60-cycle ac.

Source: FRAZIER WRIGHT CO.
2319 S. Hill St., Los Angeles 7, Calif.



Model D20-1W-A is a new assembly of Waukesha diesel engine, 4-wire stationary field generator and the required controls and accessory equipment on a skid base. The generator mounts a 125-volt direct-connected exciter. Output is 3-phase for motor drive, single phase for a lighting load.

The control equipment includes a volt meter, frequency meter, running-time meter, 100-amp. main-line switch, voltage regulator, exciter rheostat, Bendix control and an automatic start and stop mechanism are subject to order. Electric starting is provided for the engine with a heater to employ in cold weather and oil pressure and safety shut-down switches. A 32-gal. tank over the engine holds the fuel oil.

▼ DREFITT—Identify by IEN - 7464 if you write the maker ▼

MARKING . . Roll type tool marks screw machine work when indexing

Source: SPECIAL SCREW PRODUCTS CO.
5443-47 Dunham Road, Bedford, Ohio

Automarx is the name given to a new marking tool that applies a numerical sequence, one stroke between each of the working positions prior to cutoff. When the sequence is completed, the tool is retracted and the markings engraved on a non-sequential or chosen pattern for attention on the operator's part.

The marking roll rotates with the work to a certain arbitrary position in its starting position after the work has cleared. The machine measures 6 to 7 in. in length depending on the position of the length adjustment. Width is 2½ in. and depth is 1½ in. Standard marking rolls are 1½ in. in diameter with larger sizes to specification. Letters or numbers are ⅛ in. to ¼ in. in height. List price is about $75 for the tool and an added $25 to $30 for each engraved roll.

▼ DREFITT—Identify by IEN - 7465 if you write the maker ▼

VALVES . . Selection chart on float and lever valves employs picture index

Kipdal Valves Inc., Div.
1002 Wellis Ave., Hamilton, Ohio

Regulating valves made by the company are summarized in new 2-page chart by captioned pictures of 14 types. The chart classifies these valves by type of service, maximum pressure drop, maximum temperature, operating means, flow direction.

10 Makers of These And 10 Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 39

▼ DREFITT—Identify by IEN - 7466 if you write the maker ▼

NEVER BEFORE METAL REMOVAL LIKE THIS

Cut Costs with . . .

NEW ROTOR 360 CYCLE TOOLS

THEY developed nearly twice the power of 180 cycle tools with the same size motor and develop more power per pound than any other type of portable tool.

The 6-inch, 360 Cycle Rotor grinder shown weighs only 12½ lbs., operates at free speed of 10000 R.P.M. and under full load at 5700 R.P.M. This light weight and high speed under load means *greater production . . . lower cost.*

Call the Rotor Analyst for full information on this remarkable new line of Rotor grinders, sanders, buffers and polishers. Write for free copy of Bulletin 36.

THE ROTOR TOOL CO.
CLEVELAND, OHIO

▼ DREFITT—Identify by IEN - 7467 if you write the maker ▼

Top Quality Welding Supplies— when and where you need them!

Call U·S·S Supply Co.

● In all our warehouses—coast to coast—we have large stocks of welding supplies, including **Stainless Steel Electrodes, Mild Steel Electrodes** and **Hard-Surfacing Electrodes.**

Your orders for Welding Rod for electric arc welding and other welding supplies will be filled quickly. And we can also make immediate delivery on Welding Machines, Hornets Protected Clamps and Protect-O-Metal for eliminating weld spatter. Phone, write or wire our nearest warehouse.

WHEN YOU DEAL WITH US, YOU GET Service Plus!

UNITED STATES STEEL SUPPLY COMPANY
Warehouses Coast-to-Coast
Headquarters Office: 208 S. LaSalle St. Chicago 4, Ill.

UNITED STATES STEEL

▼ DREFITT—Identify by IEN - 7468 if you write the maker ▼

CON-L-DUIT

APPROVED SAFETY ENCLOSURE

SAFETY IS CHEAP! Protection from open conductor bars on cranes and monorails is now available at low cost with CON-L-DUIT, a specially compounded neoprene-base insulation. It complies with Safety Codes of all States. Two sizes to fit all new and existing figure-8 conductor bar systems. Is practical on curves, straight runs, switches, interlocks and drop sections. Easy to install, safe, fool-proof, and economical.

CON-L-DUIT is sold and serviced by electrical contractors and crane equipment dealers everywhere. Write for illustrated literature.

calabar **CALABAR CORP.**
8414 OTIS STREET • SOUTH GATE, CALIFORNIA

▼ DREFITT—Identify by IEN - 7469 if you write the maker ▼

TEMPERATURE RECORDING CONTROLLER

Recording mechanism also operates control switch. Five Ranges of 150, 350, 450, 650 and 1000 deg. F.

PARTLOW
RECORDING CONTROLLER
(Wall Type illustrated)

Wall Type	$ [illegible]
Floor Type	$ [illegible]
RECORDER ONLY	
Wall Type	$ [illegible]
Floor Type	$ [illegible]

You can install the sensitive bulb of this recording controller at the location where you desire temperature control. Then you install the instrument in the desired control panel. From there on operation is automatic: the switch actuating a solenoid or motor-operated valve, electric heating unit, or driving motor without further attention. At the same time an open pen traces a continuous record on the circular motor-driven or clock-driven chart.

The switch connects direct to the power-operated equipment for loads within its capacity, or operates through a relay for any larger load. It is available for operation, normally "on," normally "off" or in single-pole, double throw arrangement.

You can purchase the complete recording-controller assembly for automatic control or we can omit the control switch to provide you with an instrument to record for manual control.

Recording Controller details in Bulletin 901-A
Recorder details in Bulletin 901-A

THE PARTLOW CORPORATION
4 CAMPION ROAD NEW HARTFORD, N. Y.

BREVITY—Identify by IEN-7470 if you write the maker

8 WAYS BETTER THAN FRICTION TAPE*

*Check These 8 Extras:

- Higher dielectric strength
- Better moisture barrier
- Less bulk—equal strength
- Higher tack (quick stick)
- Cleaner (doesn't collect dirt)
- Unwinds easily
- Doesn't fray
- Sticks firmly

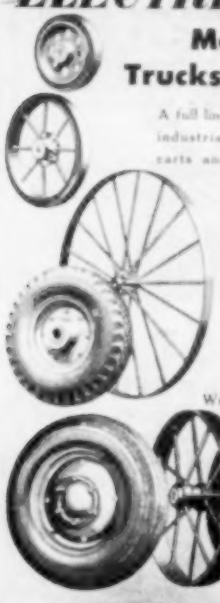
Now for the first time in over 79 years comes a bona-fide revolutionary improvement over sticky old-fashioned friction tape. It's POLYKEN No. 163 Electrical Tape . . . available now through your electrical distributor in three convenient packs. And dependable POLYKEN No. 163 costs no more than most ASTM friction tapes. See your distributor or write today for free folder "Test It Yourself." Address POLYKEN, Dept. 11-S, 222 W. Adams St., Chicago 6.

Polyken BAUER & BLACK
INDUSTRIAL TAPE

BREVITY—Identify by IEN-7471 if you write the maker

ELECTRIC WHEELS

Modernize Trucks and Trailers



A full line of wheels for baggage trucks, industrial trailers, floor trucks, mail carts and other portable equipment.

ELECTRIC wheels are furnished with or without roller bearings to fit your own axles or complete with axles. Steel tires, molded-on-tires, or pneumatic tires.

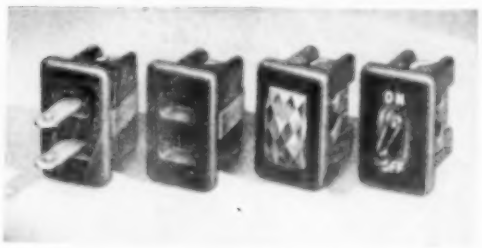
There is a full range of sizes and our experienced engineers are at your service.

Write us for full information.

ELECTRIC WHEEL CO., 2932 Spruce, Quincy, Ill.

BREVITY—Identify by IEN-7472 if you write the maker

New, Improved (H) Snap-Ins



AGAIN LEAD THE WAY TO COST-SAVING AND BETTER PERFORMANCE IN YOUR PRODUCTS

Diamond H Snap-Ins . . . single or in box, convenience outlets, pilot lights and long-connecting load plugs . . . have always been superior performance and for cost-saving to users assembly time. Fast snap-home into their holes, spring clips hold them tight. Wire them up before or after.

NOW . . . NEW IMPROVEMENTS MAKE THEM BETTER THAN EVER!

- All . . . have wider face areas with wider flanges. Greater overlap eliminates need for exacting tolerances in panelmounting or other binding around 7/32" x 1 1/2" installation holes.
- Invisible . . . operate on principle new and exclusive to this certificate is on position only.
- Insert . . . are held together under pressure of spring action to assure positive attaching action. Ratings 15 and 20 A., 125 V., 10 A. 250 V., A.C. also H.P. ratings.
- Pilot . . . with larger, faster lenses, are greater light output or are comparable pilots on the market. Rated 115 V. or 230 V. A.C.
- Convenience Outlet and Interconnecting Load Plug . . . like all Diamond H products . . . are rugged: built for long service, in black, white, brown or special color plastic for top appearance in your product.

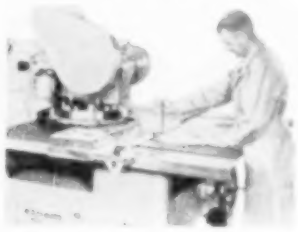
Write today for complete detailsson how Diamond H Snap-Ins will help you make a better product at lower cost.

THE HART MANUFACTURING COMPANY
203 Bartholomew Ave., Hartford, Conn.

BREVITY—Identify by IEN-7473 if you write the maker

PRESS . . Turret type machine and positioner perforates hole pattern

Source: WIEDEMANN MACHINE CO.
4209 Wissahickon Ave., Philadelphia 32, Pa.



New assembly of the company's Type RA-41F turret press and work positioner mounts 24 to 29 sets of punches and dies to be brought into operating position, one set at a time, and positions a flat work sheet to 28 by 48 in. in its template located positioner. The required punch and die are made operative by turning a handwheel at the front of the machine.

The operator then grips a positioning post carrying a stylus and moves the positioner crosshead with the attached work to the first of perhaps several holes of the selected pattern. All such holes can be collected by a second use of the template to perforate one after another before selecting the next punch and die set.

The punches and dies used, in quick-change holders, can be any single or multiple assembly to required shape equivalent to a perforating die, to operate requiring perforating pressure to the machine's 15 ton capacity. The press ram has an 18 in. stroke, which is tripped each time the stylus point enters and engages each 3/8 in. template hole.

Bulletin 211, 12 pages, presents illustrated description of the machine, explains and discusses its operation, includes typical examples of work with specifications and times.

BREVITY—Identify by IEN-7474 if you write the maker

TESTING . . Condition indicator for electronic tubes, has 12 sockets

Source: SYLVANIA ELECTRIC PRODUCTS INC.
1740 Broadway, 16th Floor, New York 19, N. Y.

Type 228 is a portable assembly by a seven-bearing and Type 230 is a bench mounting design of the company's new electronic tube tester. It accommodates 12 sockets to test 4 to 9 pin tubes, metal and miniature, noval, 1-1/4, and octal types, bearing and anchor and suggestions tubes and pilot lamps. Provision is made for new tubes not as yet announced by the company to keep the unit up to date.

Control settings are shown on a tubes chart that can be removed from the front panel to add data for the new tubes. Control switches on the panel are located in the same left-to-right sequence as shown on the chart. Switch positions are numbered to correspond to the pins in the tube under test. Operating instructions are carried in the cover. Operation is on 110 cycle 50/60 cycle ac. power supply.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

BREVITY—Identify by IEN-7475 if you write the maker

BIG NEWS about LITTLE SOCKET SCREWS!

BRISTOL'S MULTIPLE-SPLINE SMALL WIRE-SIZE SOCKET SET AND CAP SCREWS

Never before—convenience of internal wrenching plus exclusive strength of multiple-spline socket shape—in sizes as small as No. 1, 2 and 3 wire!

Only with Bristol's Multiple-Spline Socket Screws do you get strength *from the socket shape* as well as the metal. No expanding pressure . . . no bursting or rounding-out of socket walls.

Sets up quickly, stays tight, yet is readily loosened by wrench. Ideal for cameras, dental and surgical instruments, etc.

BRISTOL'S SOCKET SCREWS

FREE SAMPLES Address THE BRISTOL COMPANY, Mill Supply Division, 107 Bristol Road, Waterbury 20, Conn.

BREVITY—Identify by IEN-7476 if you write the maker

OTC

REPLACE 29 SIZES WITH THESE TWO

NEW GIANT ALLOY adjustable wrenches

THINNER-LIGHTER-STRONGER

Used now 29 wrenches have been needed to handle the jobs done by these two new giant adjustable wrenches. They are DIFFERENT at the back end. Strong—designed for added strength at leverage points. Lighter—to make job pertaining easy. Economical—saves time, tools and inventory. Large jobs become simple ones.

Giant Alloy wrench No. GA-24 is 24" long, 1" thick, weighs only 10 lbs. and adjusts to 14 standard sizes from 1 1/2" to 2 1/4". GA-36 is 35" long, 1 1/2" thick, weighs only 22 lbs. and adjusts to 18 standard sizes from 2 1/4" to 4 1/2".

ANOTHER EXAMPLE OF ENGINEERING THAT MAKES OTC TOOLS OUTSTANDING

OWATONNA TOOL CO.
371 CEDAR ST., OWATONNA, MINNESOTA

BREVITY—Identify by IEN-7477 if you write the maker

NEW

There's always something new in RAPISTAN

Light weight, movable, power belt conveyor for handling industrial or stock that all types of packaged or loose materials! It's the new aluminum Rapistan. Just roll it from place to place, place it exactly in position! Capacity to 200 lbs. Non-corrosive. Lengths from 41 to 241. Belt widths, 10" and 16". Sizes ¼ HP motor.

Write for prices and Rapistan Literature!

The RAPIDS-STANDARD COMPANY, Inc.
Rapistan Building
Grand Rapids, Michigan

Rapistan® MATERIAL flow EQUIPMENT

CONVEYORS: Power or Gravity, Portable and Stationary. Also CASTERS • HAND & PLATFORM TRUCKS

BREVITY—Identify by IEN-7478 if you write the maker

COMPACT

Series "K" Roper Pumps

EASY TO INSTALL AND APPLY ON A WIDE RANGE OF JOBS

Yes, you can save space and reduce power costs with Roper Series "K" Pumps. They are very compact in design, yet sturdy enough to handle a wide range of jobs . . . pressure lubrication, hydraulic service, fuel supply, or transfer work pumping clean liquids at capacities up to 50 g.p.m.

They are self-lubricated by the liquid pumped . . . handle total suction lifts up to 25 feet . . . come equipped with mechanical seal or packed box . . . with or without relief valve.

Series "K" pumps are available in 4 to 50 g.p.m. sizes, pressures to 150 p.s.i.

ROPER Rotary Pumps

Write for latest bulletin

GEO. D. ROPER CORP.
200 Blackhawk Park Avenue
ROCKFORD, ILLINOIS

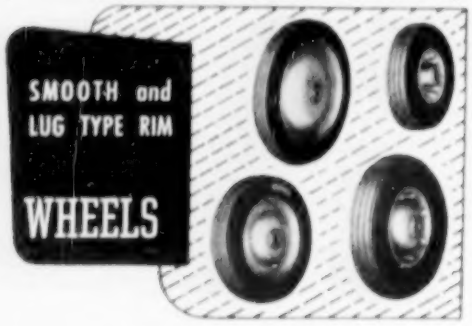
BREEFITS—Identify by IEN-7479 if you write the maker

PULLS, KNOBS and PENDANTS

Specify Grigoleit molded plastics and you'll be ahead in time and money. They're styled for sales . . . ready for prompt delivery. Write today for fully-illustrated catalog.

THE GRIGOLEIT COMPANY
"More Beauty Goes in Plastics"
742 E. NORTH ST. DECATUR, ILLINOIS

BREEFITS—Identify by IEN-7480 if you write the maker



FOR BETTER SALES OF WHEELED PRODUCTS

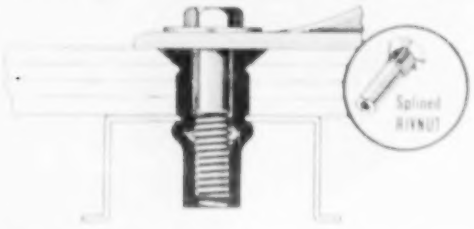
Sound selection of proper wheels depends upon full knowledge of product application, and the performance characteristics of wheels. Some applications require prevention of tire creep by the use of lugs or tires pressure in stamped discs, resulting in outline wheels. Adequate judgment is built upon wide experience. Gleason as a wheel supplier is aware of the experience of many wheel users. Out of this wide experience comes a wolgmod and information you can rely upon in the selection of tires and wheels for your wheeled products.

GLEASON CORPORATION 530 N. 9th St., MILWAUKEE 3, WIS.

GLEASON WHEELS — FOR Price Competitive PRODUCTS

BREEFITS—Identify by IEN-7481 if you write the maker

New way to fasten seats SOLVES ASSEMBLY PROBLEM



BUS DESIGNERS faced a tough problem in attaching seats to plywood floorboards. With the under side inaccessible, ordinary fasteners wouldn't work. But a splined Rivnut gave them the perfect answer!

One man does the job from one side of the work. The holes formed on the Rivnut pressure pull through. The splines take care of torque. Still other threads provide a deep anchor for attaching the seat.

To improve your product and cut assembly costs, consult a Rivnut engineer.

NOW! FREE DEMONSTRATOR!
Shows with sample how Rivnuts work. Explains construction, gives applications. Write to

B.F.Goodrich
DEPT. IE-80, AKRON, OHIO

BREEFITS—Identify by IEN-7482 if you write the maker

BRIDGE . . Packaged structural frame and steel supports. 14 to 60 ft. length

Source: H. D. CAMPBELL CO.
50 Industrial St., Rochelle, Ill.

Twelve assemblies are available in packaged form for construction of temporary bridges in single or double spans from 14 to 60 ft., width from 6 to 16 ft. and load capacities from 5 to 15 ton. Smallest assembly contains two 14-ft. steel girders at the base for a 14 by 10-ft. installation rating 5 ton and listing at $80.90. The largest contains ten 30-ft. steel girders and the required steel columns for a 90 by 16-ft. bridge structure rating 15 ton and listing at $1,218.

The columns are adjustable in height. After the girders are in place and secured the user supports and lays the planking. It bolts through holes supplied in the girder flanges.

BREEFITS—Identify by IEN-7483 if you write the maker

PUNCHING . . Foot operated press to punch holes in composition board

Source: WHITNEY METAL TOOL CO.
96-100 Forbes St., Rockford, Ill.

Throat depth is 48 in. in this new foot press, an increase of 24 in. over the largest machine previously built by the company. The press has been designed to punch holes along the rear edges of composition board measuring 48 in. in width. The press housing is made of steel in welded assembly. Mounting is on a structural stand. Punching capacity is a hole 2 in. in diameter through 16 gage mild steel or its equivalent.

BREEFITS—Identify by IEN-7484 if you write the maker

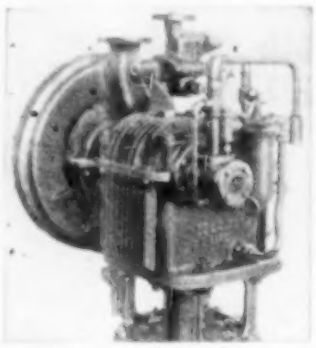
CASTINGS . . History of an industry in new 168-page book on steel castings

Lebanon Steel Foundry
Cor. Ave. D, Lebanon St., Lebanon, Pa.

"A History of Steel Casting" (this new cloth-bound book) list price $2.50. It is published under the auspices of Division One, Steel Founders' Society of America, and was prepared under the direction of Dr. William H. Wuerflein, president of the company. It includes a general history of the ferrous foundry industry, traces progress through the years, presents data on many of the companies and individuals.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

BREEFITS—Identify by IEN-7485 if you write the maker



De Laval IMO lubrication and governor oil pump direct connected to high speed turbine shaft

Pumps oil at 5800 rpm

De Laval IMO pumps can be direct connected to high speed shafts. No space consuming gears or reductions are necessary. Pump capacity is high compared to its size and weight.

Investigate the IMO if you need a dependable, wear-free, pulsation-free pump for lubrication, fuel oil, hydraulic, suction fluids, vacuum liquids.

Ask for Catalog L-2187-Q

IMO — IT MOVES OIL
IMO PUMP DIVISION of the DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

BREEFITS—Identify by IEN-7486 if you write the maker

STOP DUST IRRITATION . . . with NEW Sensational Flex-a-foam FILTER MASK

Trial Sample $1.50 Postpaid

Easier to breathe through and talk through than an ordinary pocket handkerchief . . . yet filters non-toxic nuisance dusts as small as 1-25000 of an inch.

- Extremely light weight—only 1 oz. complete.
- Self-adjusting to every face size.
- Attractively styled to suit the most discriminating wearer.
- Simple in design: only four parts—four tough, long-wearing, interlocking parts.
- Only respirator made with long-lasting washable filter—can be used over and over again.

Write TODAY for Descriptive Circular

Here's dust protection . . . your workers will welcome and WEAR!

THE GOGGLE PARTS COMPANY
1468-70 W. 9th Street • Cleveland 13, Ohio

BREEFITS—Identify by IEN-7487 if you write the maker

AGASTAT
TIME DELAY RELAY

The magnetic circuit of an AGASTAT makes it a dependable, efficient instrument.

Time delay with the basic type 1 starts when the coil is energized.

Catalog and information on request.

AGA AGA AGA AGA

AMERICAN GAS ACCUMULATOR COMPANY
1027 NEWARK AVENUE • ELIZABETH 3, N. J.

BREEFITS—Identify by IEN-7488 if you write the maker

HERE'S YOUR Complete STEAM PLANT

A complete steam plant packaged for individual requirements • Dropper equipment assembled • More than 80% thermal efficiency guaranteed • 4 year design protection • up to 30 sq ft heating surface per h.p. • Burner includes draft stabilizer, fuel oil or gas pressure regulators • Simple installation • Clean, quiet operation • Rugged, fully manufactured, assembled and dependability • 12 sizes from 30 to 300 h.p. for pressures up to 250 p.s.i. or for hot water heating.

Superior STEAM GENERATOR

▼ DIRECT—directly to IEN-7489 if you write the maker ▼

FELT

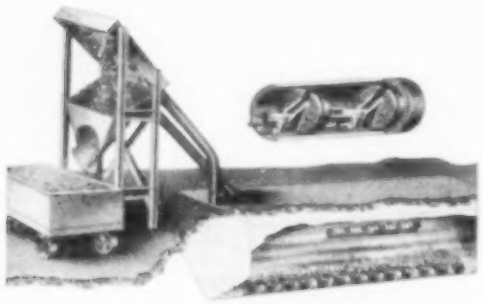
Felt is the material of a million uses, strictly standardized in all its types, which you can specify as accurately as any other substance. Every plant and product uses felt in some way, or could find additional applications to advantage. Write us what you make, and benefit by our constructive ideas. Ask for "The Story of Felt."

American Felt Company

TRADE MARK

General Offices: 18 Glenville Road, Greenville, Conn. Engineering and Research Laboratories: Glenville, Conn. PLANTS: Glenville, Conn.; Franklin, Mass.; Newburgh, N. Y.; Dolgeville, N. Y.; Westerly, R. I. SALES OFFICES: New York, Boston, Chicago, Detroit, Cleveland, Rochester, Philadelphia, St. Louis, Atlanta, Dallas, San Francisco, Los Angeles, Portland, Seattle, Montreal

▼ DIRECT—directly to IEN-7490 if you write the maker ▼



Houdaille*

CONVEYOR

WILL WORK FOR YOU

Originally designed to handle sludge and waste matter in the metal working industry, the Houdaille Conveyor is being used to handle a wide range of applications in the materials handling field.

This automatic loading and continuous materials transport is adaptable to transporting any solid or fibrous material which will settle to the bottom of a tank or hopper.

Here are a few of the suggested uses for the Houdaille Conveyor:

METAL WORKING INDUSTRY
- Cast Iron Dust and Chips
- Aluminum Dust and Chips
- Abrasive Sludge
- Scale resulting from quenching, metal cleaning, steel rolling, brass rolling, stripper rolling, aluminum rolling, wire drawing

MATERIAL FROM DUST COLLECTORS

PLASTIC POWDERS

BREWERY PRODUCTS
- Grain, spent or new

FOOD PROCESSING

PACKING PLANTS
- Cracklings
- Other By-Products

SOAP MANUFACTURING
- Powders, Chips, etc.

MANY OTHERS

If you have a materials transporting problem, write to 802 Wabash Avenue, Lebanon, Indiana in care of

HONAN-CRANE CORPORATION
a subsidiary of
HOUDAILLE-HERSHEY CORP.

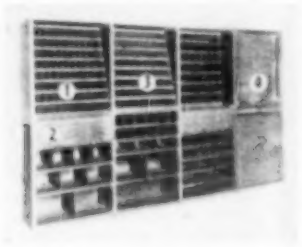
The Houdaille* CONVEYOR

*Registered Trade Mark

▼ DIRECT—directly to IEN-7492 if you write the maker ▼

STORING . . Assembly of cabinets for application in tool or stock room

Source: LYON METAL PRODUCTS INC.
1734 Montgomery St., Aurora, Ill.



The illustration shows a typical new assembly of storage cabinets for small parts, tools, supplies, accessories available to specification from standard stock units. The sloping front cabinet 1 has 88 openings in varying depths with dividers adjustable, while each Tock of units, below it, is a drawer case and 2 with dividers in each drawer. To the right is a sloping shelf unit with 108 compartments and to the right is the complete assembly, a 2 sloping panel unit, a carrying accessory at below, etc. Units are to take tools or parts for a variety of items.

▼ DIRECT—directly to IEN-7493 if you write the maker ▼

SIGNALING . . Electric alarm guards against motor vehicle intrusion

Source: EISEMANN INDUSTRIAL CORP.
1819 Broadway, Suite 1922, New York 23, N. Y.

List price averages $60

Lincoln Alarm designed and assembly of electrically operated cross to mount on the firewall of a motor vehicle connecting controls on dash, brake, and floor, and a master key operated lock operating from outside the vehicle so that one switch in the driver's position is made the alarm operative.

Any attempt to open a door while the control is in operating position will cause the alarm to sound. The same thing will happen on attempting with a crow, tool or any other concealed part of the vehicle.

▼ DIRECT—directly to IEN-7494 if you write the maker ▼

SEPARATING . . Permanent magnet unit removes tramp iron from flow in duct

Source: ERIEZ MFG. CO.
1303 E. 12th St., Erie, Pa.

New assembly of dynamic permanent magnet and a flattened oval section of a non-magnetic duct section applies in a circular duct to remove magnetic materials from a flow of dry freely moving materials. A baffle in the assembly directs the flow to flatten it out for passage over the series separator plates. Sizes are subject to specifications for a given installation.

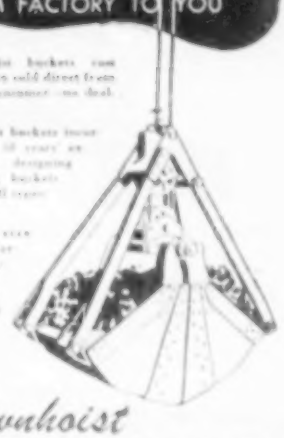
▼ DIRECT—directly to IEN-7495 if you write the maker ▼

▼ DIRECT—directly to IEN-7496 if you write the maker ▼

Buy a Better Bucket FOR LESS MONEY Buy Brownhoist

DIRECT FROM FACTORY TO YOU

- Brownhoist buckets cost less—they are sold direct from factory to consumer—no dealer profits.
- Brownhoist buckets incorporate over 50 years experience in designing and building buckets for handling all types of materials.
- Standard cross-operated, power-wheel and link type Brownhoist buckets are available for immediate shipment.



Brownhoist

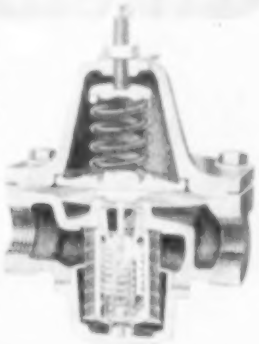
Write for illustrated catalog of Brownhoist Buckets

INDUSTRIAL BROWNHOIST CORPORATION
139 Washington Ave., Bay City, Michigan

▼ DIRECT—directly to IEN-7497 if you write the maker ▼

repair it on the line...

Amazing—but true! All working parts of Cash-Acme valve illustrated here are renewable without taking it off the line. This saves time—makes operation economical. But the odd thing, you probably won't need to repair Cash-Acme. It's precisely made, of rust-proof bronze.



CASH-ACME Automatic Valves

Type B for water, air, steam, oil, gas. ½" through 2" pipe sizes. Ask your Mill Supply Dealer.

A. W. CASH VALVE MANUFACTURING CORP.

6012 EAST WABASH AVENUE, DECATUR, ILLINOIS, U. S. A.

▼ DIRECT—directly to IEN-7498 if you write the maker ▼

THE Doyle VAC-IT

INDUSTRIAL - COMMERCIAL

VACUUM CLEANERS

Regardless of the type of business in which you are employed YOU CAN PROFIT by using the DOYLE VAC-IT. Let our new illustrated bulletin help you determine how the Doyle Vacuum Cleaner can be of service to you. Complete information is supplied, including details of various models and a list of happy users. Send today for your FREE COPY.

Doyle VAC-IT

DOYLE VACUUM CLEANER CO., 2235 Stevens St., S. W., Grand Rapids 7, Mich.

▼ BREEFITT—Identify by IEN-7499 if you write the maker ▼

LARGEST, MOST VARIED STOCK IN U.S.A.

Every shape and size to meet your demand. Lowest possible cost per unit. Prompt shipment. Write, wire, or telephone your specifications, *today*.

FREE NEW 44 PAGE CATALOG

Full data on all the popular and industrial Rubber Goods. 24 pages with classic Engraved Covering 44 Rubber Items

Take it up with

LAVELLE *Rubber Company*

1831 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS

▼ BREEFITT—Identify by IEN-7500 if you write the maker ▼

Atkomatic Valves

Electrically Operated

★ Whether you use solenoid valves in your plant or as part of your product, you'll find the right valve in the ATKOMATIC line. These sturdy, compact valves are built in a wide selection of types for pressures up to 3000 pounds. Thousands of ATKOMATIC users find that they assure smooth, trouble-free operation over a long period. Write today for facts about ATKOMATIC.

ATKOMATIC VALVE COMPANY, INC.
1255 ROOSEVELT AVE. • INDIANAPOLIS 7, INDIANA

Send for Literature

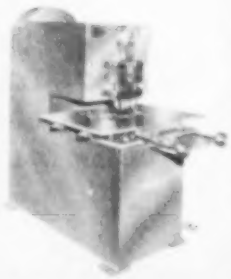
▼ BREEFITT—Identify by IEN-7501 if you write the maker ▼

HOLES LIKE THESE PUNCHED IN 2 MINUTES

with this -

NEW **SEMCO** PRESS

PUNCHES STEEL 1/4" THICKNESS OR LESS



SERVICE MACHINE COMPANY
INCORPORATED
200 MILLER STREET, ELIZABETH, N. J.

▼ BREEFITT—Identify by IEN-7502 if you write the maker ▼

VALVE . . Breather assembly for tanks holding inflammable liquids

Source: VAPOR RECOVERY SYSTEMS CO.
P. O. Box 231-A, Compton, Calif.

Series 5000 and 5000A are new assemblies, the latter illustrated, in the company's line of breather valves. As shown, the assembly includes a flame-arrester section at the bottom containing corrugated plates between which the vapors must pass, a valve section at the top with an escape valve on one side and a vacuum intake valve on the other. The escape housing is also fitted with a chain-operated flame snuffer.

Normal setting is at ½-oz. pressure and vacuum. Maximum setting is 6 oz. Seven sizes range from 2 to 12 inches at the inlet connection. Overall height is 22½ to 49½ inches. Series 5000 differs from 5000A only by omission of the flame snuffer. Housings are aluminum or standard construction. Bulletin CO-2000, 8 pages, presents complete technical data with diagrams, tables, illustrations.

▼ BREEFITT—Identify by IEN-7503 if you write the maker ▼

PRESS . . Air powered hydraulic rates 50 ton, 14 in. maximum stroke

Source: DAKE ENGINE CO.
614 Seventh St., Grand Haven, Mich.

Two new presses with rating at 30 ton in downward direction and 10 ton on the return are designed to operate on air from a shop line at 80 and at 145 lb. respectively. Both provide advances of 40 ipm. under 1-ton resistance to meet with automatic change to power action. A safety relief valve prevents overloading. Control panels at a safe operating area. The design is intended for fast repair and for ease of protection.

▼ BREEFITT—Identify by IEN-7504 if you write the maker ▼

VENTILATING . . Information booklet to assist in industrial ventilation planning

Inquiries Can Offer Aids
Z-1130 Guardian Bldg., Detroit 26, Mich.

"Industrial Ventilation Guide" is new 30-page booklet that describes points to consider in installing a ventilation problem. Air characteristics, fan types and selection, air change recommendations, fan capacity required for 15 processes, fuel resistance chart, air horsepower chart, are typical.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 38

▼ BREEFITT—Identify by IEN-7505 if you write the maker ▼

Stop corrosion with Hysol Coatings

Wherever chemicals, caustic solutions, salt or fresh water cause corrosion . . . Hysol Coatings can save money for you. These coatings are of tough and abrasion resistant film adhere strongly to all metal surfaces. They can be applied by brush, spray, dip or other methods with your own personnel. Application is not critical. Coatings in our plant are applied by dip, spray or other methods. Although they dry quickly at ordinary temperatures, we recommend baking under moderate temperature for best results. Coatings are particularly suited for use in chemical plant equipment. Hysol Coatings are also free from odor and non-toxic. Hysol coatings are also available in clear, white, black and colors.

Hysol Coatings are available in eight basic types . . . Acid Resistant, Alkali Resistant, Solvent Resistant, Water Resistant, Oil Resistant, Abrasion Resistant, Electrical Insulating, Decorative. Write us about your problem and let us show how Hysol coatings can help solve your problem.

houghton laboratories, inc.
Olean, New York

▼ BREEFITT—Identify by IEN-7506 if you write the maker ▼

NO TIME LOST "WONDERING" HOW TO USE THIS EXTINGUISHER!

Anybody can get a Randolph into action FAST! No valves to turn, no nozzles to adjust, just point and press your thumb! Randolph's snowy CO_2 is non-damaging, evaporates without a trace. It's non-toxic, won't conduct electricity, deteriorate or freeze.

Underwriters' Approved

Learn how Randolph gives your plant better protection for pennies! Write for full facts.

RANDOLPH LABORATORIES, INC. 6 E. RINZIE STREET CHICAGO 11, ILLINOIS

▼ BREEFITT—Identify by IEN-7507 if you write the maker ▼

Easy on the Eyes!

WESTON

All-Metal THERMOMETERS

Easy on the eyes—that's just one feature that makes easy-to-read Weston Thermometers the answer to your temperature measuring problems.

Easy on the mind—you can relax when Weston All-Metal Thermometers are supervising important industrial processes.

Easy on the budget, too—Weston All-Metal Thermometers deliver dependable faithful service . . year in, year out. Be sure to check your Weston Representative or write Weston Electrical Instrument Corporation, 600 Frelinghuysen Avenue, Newark 5, New Jersey . . . manufacturers of Weston and Tagliabue instruments.

WESTON *Instruments*

▼ DREFITT—directly to IEN - 7509 if you write the maker ▼

▼ DREFITT—directly to IEN - 7510 if you write the maker ▼

28 reasons why MASONITE HARDBOARDS can help you!

Masonite Hardboards—wood made better—come in 28 different types and thicknesses. For complete technical information

write today—

MASONITE CORPORATION
111 W. Washington St.
Chicago 2, Illinois

1. Hard
2. Dense
3. Smooth
4. Grainless
5. Great structural strength
6. Resist moisture
7. Resist weather
8. Resist abrasion
9. Resist many chemicals
10. Uniform structure
11. Dimensionally stable
12. Won't split
13. Won't crack
14. Won't chip
15. Won't dent
16. Won't splinter
17. Equal strength in two directions
18. Easily laminated
19. Won't rust or corrode
20. Can be punched
21. Can be drilled
22. Can be sawed
23. Can be routed
24. Can be shaped
25. Can be veneered
26. Can be die-cut
27. Repel odors
28. Take and hold applied finishes

▼ DREFITT—directly to IEN - 7511 if you write the maker ▼

Chicago "Safety Plus" Socket Screws make your product better 4 ways

* THEY'RE STRONGER
* THEY GO FARTHER
* MORE ACCURATE
* THEY COST LESS

Socket Head Cap Screws • Socket Set Screws • Shoulder Bolts • Square Head Dog Point Set Screws • Socket Pipe Plugs • Keys • Hexagon Head Cap Screws, Steel and Brass • Square Head and Headless Cup Point Set Screws • Fillister and Flat Head Cap Screws • Taper Pins • Milled Studs • Semi-Finished Hexagon Nuts, Steel and Brass • Hexagon Castellated Nuts.

The CHICAGO SCREW COMPANY
2525 WASHINGTON BLVD. • BELLWOOD, ILL.
Established 1872

▼ DREFITT—directly to IEN - 7512 if you write the maker ▼

MOTOR . . Polyphase ac., 5 to 250 hp., totally enclosed design

Source: WAGNER ELECTRIC CORP.
6488 Plymouth Ave., St. Louis 14, Mo.

Standard Type 'LT' and explosion-proof Type 'JT' are so called in the company's new line of ball bearing polyphase motors with cast iron frames, non-corrosive rotors and corrosion-resistant nameplates on which is complete operating and service information. The bearings are cartridge design and are factory lubricated. Additional lubricant can be introduced as required.

The end brackets carrying the bearing housings completely enclose the rotor and do not obstruct axial pressure exerted on the shaft ends. A bonnet on the shaft at one end drains it horizontally and forces it through these passages to also with powerful heat and blade at one of the opposite end. End shields protect both ends to complete the assembly.

A two-piece conduit box, dripproof-type, is mounted on a flexible nipple which is brazed to the stator frame. A gasket rides between the two box parts. Electrical connections are screws where it is found practical. Leads are brought out through the nipple which is then filled with sealing compound. The stator is baked and impregnated to insulating varnish in a dielectric operation and finally is treated with a coat of acid and solvent resistant lacquer.

▼ DREFITT—directly to IEN - 7513 if you write the maker ▼

PYROMETER . . Double scale design, plastic housing, for panel installation

Source: ASSEMBLY PRODUCTS INC.
Bell & Main Sts., Chagrin Falls, Ohio

Two new sizes and one model recently announced make up the company's new line of pyrometers in which both instruments and thermocouples can be used. Several ranges based on the latter, in models 7A to plus 1300 deg. F. Each instrument can be adapted to varying thermocouple needs from a few inches to 100 ft. or more. Movements are designed to stand up to subject to application. They are high-resistance measuring design.

Model 261, the smallest instrument 2½ by 2½ by 2½ and has a 2½ in. dial. Model 262 the intermediate size which has been recently improved, measures 3½ by 3½ by 3½ and has a 3½ in. dial. Model 263, the largest measures 3½ by 3½ by 3½ and has a 4½ in. dial. Standard calibrations are for thermocouples and for compensating leads.

All Makers of Items and All Other Products Are Listed in THOMAS REGISTER . . Descriptions . . Ratings . . See Page 38

▼ DREFITT—directly to IEN - 7514 if you write the maker ▼

EASIEST WAY OUT OF A TIGHT SPOT

"YANKEE"
Offset Ratchet Screw Driver

If there's an inch of clearance above or below the screw and room alongside to move your hand even half an inch, you can drive or draw that screw easily, quickly with a "Yankee" Offset Ratchet Screw Driver No. 3400. Only 7½" long, yet it has the power of a heavy rigid 8" driver, will not cam or slip. Special offset jaw head and tips permit. Other models: No. 3400 for larger screws. No. 3000 for Phillips Screws, also No. 3000-S. Kit with handle and interchangeable screwdriver tips in box and cap screws. All stainless, so give long powerful action with the dependable strength of the jaw, hard to pulverized handle.

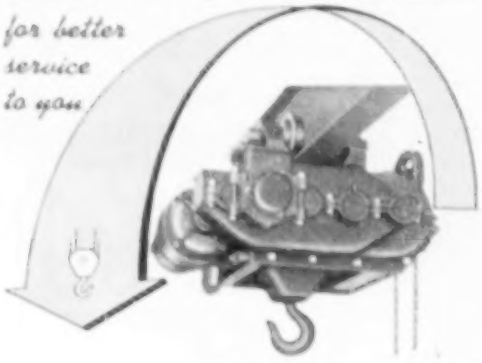
Guarantee: Further, Tool Box Catalog, Page 1, Item 1.

STANLEY
Reg. U.S. Pat. Off.
THE TOOL BOX OF THE WORLD
NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

▼ DREFITT—directly to IEN - 7515 if you write the maker ▼

make every move count!

for better service to you



NORTHERN HI-LIFT ELECTRIC HEAVY DUTY HOISTS

Quick, dependable movement of material is a "must" for cost control. NORTHERN HEAVY DUTY HOISTS represent over fifty years' knowledge in building overhead handling equipment which makes every move count in better service to you and your customers.

Write for Bulletin No. H-111.

NORTHERN ENGINEERING WORKS, 2615 Atwater St., Detroit 7, Mich.

NORTHERN CRANES AND HOISTS

▼ DREFITT—directly to IEN - 7516 if you write the maker ▼

▼ DREFITT—directly to IEN - 7517 if you write the maker ▼

ROCKWOOD BALL VALVES HELP INCREASE STEEL MAKING CAPACITY

- Full round open seen no turbulence in fluid stream
- Leak proof after continued use
- Quarter turn (90°) opening and closing valve

Write for Bulletin V-A. Distributors in all Principal Cities

ROCKWOOD SPRINKLER CO
40 HARLOW STREET WORCESTER 5, MASS.

BRIEFIT—Identify by IEN-7518 if you write the maker

CLEAN, UNIFORM, ADAPTABLE process-air heating with G-E Calrod® heaters

Drying, baking, curing, ripening, or many other air-heating processes can be easily accomplished with G-E Calrod heaters—with forced or natural convection.

It's easy, for example, to install Calrod heaters in ducts (see Fig. 1) to heat air in ventilating systems, ripening or drying rooms.

Circuits for baking, drying, dehydrating, etc., are easily and accurately heated with G-E Calrod tubular or strip heaters (see Fig. 2).

To learn more about how to apply G-E Calrod heaters to process air, write for bulletin GEA-5996. And for the

NEW FREE CATALOG, GEC-1605A, on the complete line of Calrod heaters—Sect. 7.30-18, *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

Fig. 1

Fig. 2

*Reg. U.S. Pat. Off.

GENERAL ELECTRIC

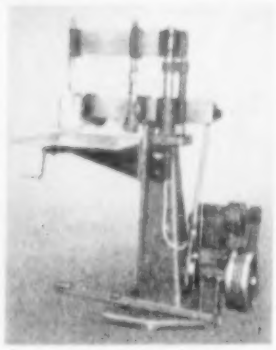
BRIEFIT—Identify by IEN-7519 if you write the maker

VERSATILITY

for DOZENS OF INDUSTRIAL JOBS

THE LOW-COST, HEAVY DUTY

SARANAC STAPLER



Here's a low priced, heavy duty machine that will cut costs for you on a wide variety of fastening jobs. Makes joints tighter, stronger than nailing. Stapling heads make and drive their own staples from reels of wire purchased on the open market. Staple sizes available range from 3/16" x 1 1/4" to 1" x 1 1/4", or 3/8" x 1 1/4". The heads are adjustable horizontally, and can be mounted for driving at 0°, 45°, or 90°. 20" table is adjustable vertically through 20".

BULLETIN 166 GIVES FULL DETAILS ON THIS PROFIT PRODUCER. ASK FOR IT TODAY.

SARANAC MACHINE CO.
BENTON HARBOR MICHIGAN

BRIEFIT—Identify by IEN-7520 if you write the maker

what are Gaskets made of?

with FEL-PRO it depends on the needs of YOUR PRODUCT!

WRITE FOR THIS FREE BRIEFIT TODAY! Get the materials Fel-Pro engineers recommend and why. Compare your present samples of gasket materials with specifications, descriptions. Helps you find cost-saving leads, aid in being made of the cost-cutting, product-improving developments in sealing materials.

Benefit by take advantage of Fel-Pro's 50 years of gasket experience. When talking to about your sealing problems. As experienced engineering service, we will review your problems and recommend with money-saving, product-improving suggestions. Write today!

FEL PRODUCTS MFG. CO. 1522 Carroll Ave., Chicago 7, Ill.

FEL-PRO Utilize Newest Materials
ENGINEERED
Specifically designed for your product
gaskets

BRIEFIT—Identify by IEN-7521 if you write the maker

PRESS TOOLS . . Piston type ejector, air operated to push work from dies

Source: C & W TOOL CO.
275-79 Noble Ave., Bridgeport 8, Conn.

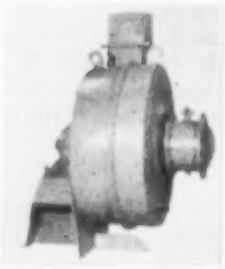
New ejector consists of a cylinder made of cold-rolled steel 1 in. in diameter by about 8½ in. in length, machined to take a 5/8-in. steel plunger and a return spring. The plunger projects at one end through a tool steel bushing. At the opposite end is a regulating screw to control flow of air pressure into the cylinder. Plunger movement is 2¼ in. when pressure is applied.

Installation is in a press so the die so the plunger will strike the work to eject it when a valve operated by the press movement momentarily admits air pressure from a shop line. The plunger retracts on the spring action when the pressure is released. The user supplies the air valve and the operating mechanism and the bracket to mount the ejector.

BRIEFIT—Identify by IEN-7522 if you write the maker

VENTILATING . . Centrifugal blower, 4,000 to 7,560 cfm., 4 to 16 ounces

Source: NORTH AMERICAN MFG. CO.
4453-57 E. 71st St., Cleveland 5, Ohio



Direct drive on belt-mounted units may be specified in the new addition to the company's line of Series 200 centrifugal blowers. The sizes now also in width of the basic housing as overall length is 24 or 42 inches. Smallest unit, for operating at low pressure range (1440 and 1700 rpm. with 1½ and 10 hp. motors operating at 1750 rpm. The largest, also in two ratings of 6,000 and 7,560 cfm., takes a 20 or a 40-hp. motor operating at 3,500 rpm. List price is $820 to $1,092.

Housing and base are made of fabricated steel. The impellers are fabricated and balanced aluminum. Discharge can be specified in desired angle with horizontal. Overall height of the housing is about 32 inches.

BRIEFIT—Identify by IEN-7523 if you write the maker

ILLUSTRATIONS . . How to make them and how to employ them to point up printed material

Technical Illustration Council
251 Fourth Ave., New York 10, N. Y.

Informal sketches show in a 16-page booklet (see illustration) of new 40-page summary "How . . . Tech. Illustrations Point Up Printed Material." The author, Fr. H. E. Kleinschmidt advocates the use of "sketch pads" in artists' sketches to point up ideas in printed material. He describes how to make them and discusses examples of their use.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

BRIEFIT—Identify by IEN-7524 if you write the maker

The WILLIAMS-HAGER flanged *Silent check* VALVE

the economical, practical solution to costly **WATER HAMMER**

With its renewable disc and wear-compensating conical spring, the Williams-Hager Valve offers dependable protection in any position—horizontal, vertical with upward, vertical with flow downward and angular—easily installed. Easily installed or removed without special tools, it is available in standard pipe sizes from 1" to 20".

- durable
- compact
- accessible
- low friction

Write for Bulletin WH 100

THE WILLIAMS GAUGE CO.
Pump Valves . . Water Gauges . . Gauge Cocks . . Steam Traps . . Pump Governors . . Feed Water Regulators . . Water Columns
2900 PENNSYLVANIA AVE. - PITTSBURGH (12), PA.

BRIEFIT—Identify by IEN-7525 if you write the maker

PROTECTION . . . against Wood Decay and Termites with WOLMANIZED* Lumber

Before building, remodeling or reconditioning your plant, we believe you will find this new booklet valuable. It tells you exactly what WOLMANIZED PRESSURE-TREATED LUMBER is. It explains how it protects against damage to wood caused by rot and termites. It gives you a good idea of the many applications for this remarkable cost-saving lumber—and how it saves time and money for you.

Investigations by qualified technologists prove that WOLMANIZED PRESSURE-TREATED LUMBER lasts three to five times longer than untreated wood. And, only WOLMANIZED Lumber provides all these extra advantages—clean, odorless, paintable, non-corrosive, non-leaching, glueable, and lower fire hazard.

For complete facts on WOLMANIZED LUMBER, write for free informative booklet.

*Reg. U.S. Pat. Off.

Source: AMERICAN LUMBER & TREATING COMPANY
General Offices: 1640 McCormick Bldg. • Chicago 4, Illinois
Offices in Principal Cities: Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Washington, D. C.

BRIEFIT—Identify by IEN-7526 if you write the maker

Mechanized floor cleaning the Multi-Clean way saves time, labor and money . . . does a better job. Learn how Multi-Clean can solve your problem. Write today.

MULTI-CLEAN
Dept. 31A
2277 Ford Pkwy.
St. Paul 1, Minnesota

BRIEFIT—Identify by IEN-7527 if you write the maker

with "UNDERWRITERS' APPROVED" P.L.S. PIPE JOINT COMPOUND

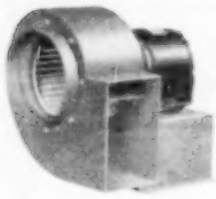
Applying an inferior pipe dope to threaded connections is a waste of time and money. It costs no more to use the best—yet the proper compound can mean extra years of freeproof . . . . . on your equipment.

PLASTIC LEAD SEAL is insoluble in water, steam, ammonia, kerosene, gasoline, LP Gases and many other services. "PLS" never hardens—it allows joints to be easily broken years later.

Make your first application at our expense. Write today for a generous free sample

JOHN CRANE **CRANE PACKING COMPANY**
1815 CUYLER AVENUE • CHICAGO 13, ILL.

▼ DIRECT—Identify by IEN-7528 if you write the maker ▼



Peerless-Electric

DIRECT-DRIVE UTILITY BLOWERS

● Peerless Utility Blowers are widely used for general ventilation and exhaust where light evidence are required, and for wash rooms, boiler rooms, restaurants, or wherever convenient through a limited area is necessary. Compact, easy to mount and quiet in operation, these blowers are designed to deliver large volumes of air at extremely economical cost. These blowers are available in six models with motors to meet all types of current characteristics.

Fan is horizontal split housing type. [illegible]
Motor [illegible] cycle, single phase, [illegible]
Motor [illegible] and [illegible] horsepower [illegible]

Constructed as standard in clockwise rotation but can also be furnished counter clockwise upon requested. Housings may be turned to any one of eight different ways at time of installation, for any discharge direction desired. Tested and rated in accordance with test codes adopted by the National Association of Fan Manufacturers and the American Society of Heating and Ventilating Engineers. Write for complete specification sheets.

THE PEERLESS ELECTRIC COMPANY
Established 1892 • WARREN, OHIO

Peerless-Electric MOTORS-FANS-BLOWERS

▼ DIRECT—Identify by IEN-7529 if you write the maker ▼

More Hands Reach For

OHMITE

POWER RHEOSTATS

...than for all Other Makes Combined!

HERE'S WHY THEY'RE INDUSTRY'S FIRST CHOICE

ENGINEERS, designers, technicians—men who select the power rheostats for industry—know that Ohmite rheostats are smoother to operate, and give closer, more evenly graduated control. They know about the smoothly gliding metal-graphite brush, the all-ceramic construction, the windings permanently locked in place by extreme enamel. They know that Ohmite rheostats can be depended upon for unfailing performance under the toughest operating conditions. That's why they prefer Ohmite in their products.

Day month after month, more Ohmite power rheostats are purchased than all other makes combined. Industry has found it pays to standardize on Ohmite. If you are not already using Ohmite rheostats, you will find it worth while to investigate the wide range of types and sizes available.

OHMITE MANUFACTURING CO.
4614 Flournoy St., Chicago 44, Illinois

Write on company letterhead for 32-page catalog of Ohmite Catalog and Engineering Manual No. 40.

Be Right with

OHMITE

RHEOSTATS • RESISTORS • TAP SWITCHES

▼ DIRECT—Identify by IEN-7531 if you write the maker ▼

TESTING . . Vibrating machine fatigue tests mechanisms to 150 lb.

Source: ALL AMERICAN TOOL & MFG. CO.
1012-16 W. Fullerton Ave., Chicago 14, Ill.

Electronic control [illegible]

The assembly [illegible]

▼ DIRECT—Identify by IEN-7532 if you write the maker ▼

WELDING . . Arc machine cable, flexible, wear resistant, non-kinking

Source: LINCOLN ELECTRIC CO.
13020 Coit Road, Cleveland 1, Ohio

Eight sizes, 4 0 to No. 6

Stranded copper is wrapped with paper to a 2½ mil thickness and the paper is covered with an outer jacket of non-prene in the company's new Lincoprene Cable. The paper is wound so it laps over and around the conductors and separates them from contact with the neoprene. The stranding is a sign for that provides flexibility and freedom from kinking.

▼ DIRECT—Identify by IEN-7533 if you write the maker ▼

MARKING . . Electric time stamp prints dial and date on flat surface

Source: INTERNATIONAL BUSINESS MACHINES CORP.
590 Madison Ave., 18th Fl., New York 22, N. Y.

New stamp [illegible]

All Makes of Them And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

▼ DIRECT—Identify by IEN-7534 if you write the maker ▼

- Furnished in all standard analyses
- Cast and Turned Rounds up to 10"
- Extruded and Drawn Rounds up to 4½"
- Extruded and Drawn Hexagons up to 4"
- Extruded and Drawn Squares up to 3"

Write for folder: TITAN Large Diameter Rods

Titan
Metal Manufacturing Company
Bellefonte, Pennsylvania
Representatives in Principal Cities

Quality Alloys by Brass Specialists
Brass and Bronze Rod • Forgings • Die Castings • Welding Rods

---

▼ DIRECT—Identify by IEN-7535 if you write the maker ▼

GUARD AGAINST ATMOSPHERIC HAZARDS...

WITH

Century

PROTECTED MOTORS

DRIP PROOF [illegible]

SPLASH PROOF [illegible]

TOTALLY ENCLOSED FAN COOLED [illegible]

EXPLOSION PROOF [illegible]

Century Motors

CENTURY ELECTRIC COMPANY
1806 Pine St. • St. Louis 3, Mo.
Office and Stock Points in Principal Cities

▼ DIRECT—Identify by IEN-7536 if you write the maker ▼

SELECT A **Sterling** *THAT FITS YOUR JOB!*

There's a Sterling Barrow for every type of hauling job, whether it's dry, bulky materials like sawdust or heavy, industrial loads like castings or steel parts. Also special bar rows for brick, tile, coal, concrete block and similar materials. Choice of wood handles or tubular steel frame, steel wheels or pneumatics. Write for Catalog No. 61.

(Left) [illegible]

(Right) [illegible]

IMMEDIATE SHIPMENT

STERLING WHEELBARROW CO., Milwaukee 14, Wis.

Look for this Mark of STERLING Quality

Sterling WHEELBARROWS

▼ DIRECT—Identify by IEN-7537 if you write the maker ▼

DIRECT—

TWO-WAY ACTION

...with the NEW Hein-Werner "Push and Pull" Hydraulic Jack

- Pump operates at any angle...and in any position.
- Easier to set up, and requires fewer attachments.
- Protected by safety valves. Cannot be overloaded.
- Cannot become airbound at any angle or in any position.
- Available in 4, 10 and 20-ton capacities, with a wide variety of attachments for hundreds of industrial applications.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORP.
Waukesha, Wis.

▼ BREEZE—Direct to IEN-7538 ▼

SECTIONAL BINS

BUILT TO LAST A LIFETIME

THE LANHAM COMPANY
1405 S. 12th St., Louisville, Kentucky

▼ BREEZE—Direct to IEN-7539 ▼

Handiest folding chair

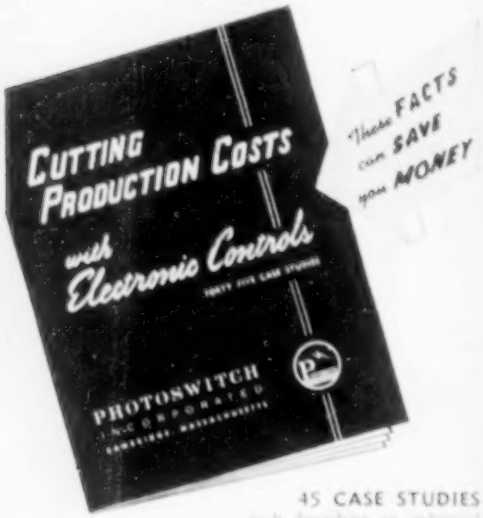
for wherever employees sit down

American Folding Chair No. 43

Also with wood seat

American Seating Company
GRAND RAPIDS 2, MICHIGAN
WORLD'S LEADER IN PUBLIC SEATING
Manufacturers of School, Auditorium, Theatre, Church, Transportation, Stadium Seating, and Folding Chairs
Branch Offices and Distributors in Principal Cities

▼ BREEZE—Direct to IEN-7540 ▼



These FACTS can SAVE you MONEY

45 CASE STUDIES

Write for your copy today.

PHOTOSWITCH INCORPORATED
75 Broadway, Cambridge 42, Massachusetts

▼ BREEZE—Direct to IEN-7541 ▼

GRINDING . . Pneumatic head rates ½ hp., operates at 50,000 rpm.

Source: ONSRUD MACHINE WORKS INC.
3909 Palmer St., Chicago 47, Ill.

Type DE-6 is a new generation centrifugal pneumatic grinding head in which big speed is better again. Worn carbonless bearings are now the exception as remedied by the governor which adjusts additional air pressure to hold the speed up. When resistance is encountered the governor increases the pressure automatically.

The rotating parts are mounted on grease-lubricated sealed ball bearings. The spindle carries a cutter chuck with maximum shank capacity of ¼ inch. The turret part of the housing measures 1⅞ in. in diameter and is fitted with mounting threads. Overall diameter is about 3½ inches. Overall length of the pneumatic head assembly is about 7 inches.

▼ BREEZE—Direct to IEN-7542 ▼

SCREW DRIVING . . Hand tool mounts flashlight in plastic handle

Source: VACO PRODUCTS CO.
315-19 E. Ontario St., Chicago 11, Ill.

Vaco Amberyl is a new commercial screw driver with a chrome-vanadium steel blade and an Amberyl plastic handle in which is a flashlight assembly with a battery. Focus directional and end star mill handle switch. The light is projected straight with the driver point as the center.

Three sizes have overall lengths of 7⅞, 9⅞ and 8⅞ inches. The blade measures ⅛ by 1 in. and ¼ by 5 in. The latter being available in a straight and for electrical work with a cross for Phillips screws. List price for any of the sizes is $1.49.

▼ BREEZE—Direct to IEN-7543 ▼

CASTINGS . . Book on casting design describes the influence of foundry practice

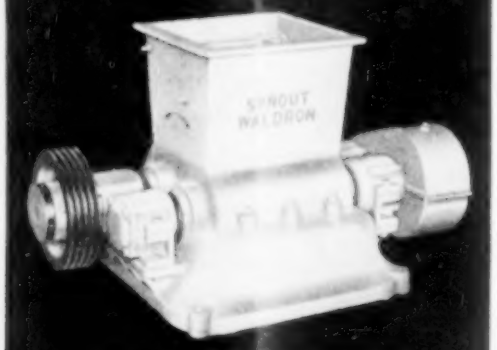
Electronic Metal Corp.
302 Tarrytown Square Bldg., New Rochelle, N. Y.

Author of new 32 page book "Continentals of Casting Design" is Mr. Oliver Smalley, company's president. Purpose is to describe to the design engineer the problems involved in making a casting so the alloy is cast accordingly. Major topics are general design, basic concepts, parting, molding and core making, gates and risers, [illegible], coring and cleaning. List price is $1.00.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Directions — Ratings — See Page 10

▼ BREEZE—Direct to IEN-7544 ▼

PRELIMINARY CRUSHERS . . . by Sprout-Waldron



A Type and Size to Meet Your Individual Requirements

Few materials can be economically reduced from lump size to final degree of fineness in one operation. To prepare for final reduction, S-W Crushers are designed to handle materials which, are soft, pressure-sensitive, tough, friable, crystalline, or fibrous.

For best recommendations, consult Sprout-Waldron today!

SPROUT-WALDRON & COMPANY
Manufacturing Engineers
5 WALDRON STREET MUNCY, PA.

▼ BREEZE—Direct to IEN-7545 ▼

NEW LAWLOR MODEL 12-W HAS ADJUSTABLE HANDLE

With this new streamlined Lawlor, operators can now scrub, wax-polish floors under desks, machines, lockers, etc. Handle can be raised or lowered to any angle within an 80-degree arc. Strongly made in the Lawlor tradition for long, satisfying service.

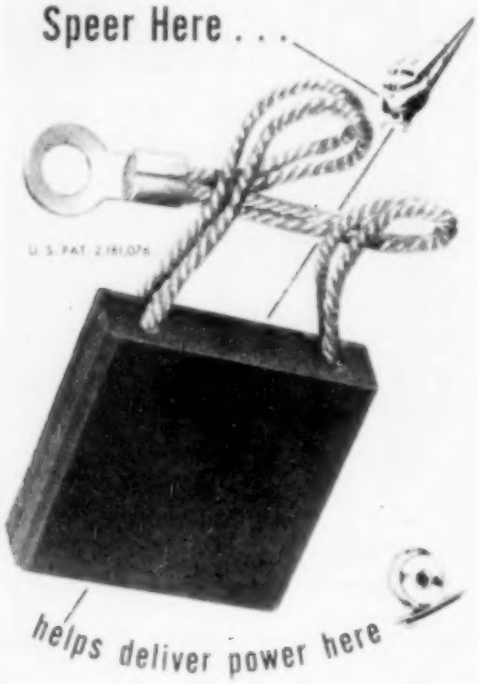
The Model 12-W is only one of the complete Lawlor line of quality floor maintenance units to take care of any kind and size floor.

Write for details about the 12-W and other Lawlor Equipment

S. C. LAWLOR CO. Quality Floor Equipment for 50 Years
120 N. Aberdeen St., Chicago 7, Ill.

▼ BREEZE—Direct to IEN-7546 ▼

Speer Here . . .



helps deliver power here

High tractive efforts . . . sustained brute tonnages . . . impose super brush requirements on the generators and traction motors of today's Diesel Electrics.

Speer carbon brushes reflect the latest engineering advances and represent years of manufacturing experience . . . "Service" designed to meet all industry requirements.

If you have a "brush" design or maintenance problem why not take advantage of Speer's complete laboratory facilities? Write us, today.

Speer
CARBON COMPANY
ST. MARYS, PENNA.

brushes • contacts • welding electrodes • graphite anodes • rheostat discs • packing rings • carbon parts

CHICAGO · CLEVELAND · DETROIT · MILWAUKEE · NEW YORK · PITTSBURGH

BRIEFLY—identify by IEN - 7548 if you write the maker

TOLEDO FLOOR SCALES

help you Save Time . . . CUT COSTS!

Toledo Floor Scales are speedy, accurate, dependable . . . provide vital cost data on materials and products in receiving, shipping and processing. Double parallel link platform suspension assures long life, dependable accuracy. Model 1900 for medium capacities. Model 1500 for capacities to 6500 lb. Write for bulletin 2410. Toledo Scale Company, Toledo 1, Ohio.

STOP ERRORS

Toledo Printweigh provides printed weight records . . . available on all types of Toledo Dial Scales . . . assures you that accurate indication of the Toledo dial will reach your accounting records without chance of human error.

TOLEDO

HEADQUARTERS FOR SCALES

BRIEFLY—identify by IEN - 7549 if you write the maker

TORIT

Dust Collectors

Self-contained units servicing many dust make- and metal grinding, sanding and polishing machines.

Torit Dust Separators

Torit also manufactures a line of cyclone type dust separators. These are in types for both outdoor and indoor systems. Sizes range from ½ H.P. to 5 H.P., with the largest having a capacity of 2,100 c.f.m.

Torit Dust Collectors

get close to get all the dust from this buffing machine

How compactly a Torit Dust Collector will fit into your production layout is well illustrated above. Here only a foot of flexible hose is needed to connect the buffing wheel hood to the inlet of a Model 64 Torit Dust Collector, which, in turn, occupies a floor space less than 2 feet square.

Self-contained Torit Dust Collectors trap dust at its source and recirculate the cleaned air. They are easy to install, and may be moved as desired. Operating and maintenance costs are exceptionally low. Torit Dust Collectors are built in sizes up to 5 H.P. For details and the latest Torit catalog, write:

TORIT MANUFACTURING CO.
296 Walnut St. St. Paul 2, Minn.

BRIEFLY—identify by IEN - 7551 if you write the maker

MOTOR CONTROL . . Toggle switch for small motors, overload protected

Source: WESTINGHOUSE ELECTRIC CORP.
306 Fourth Ave., P. O. Box 1017, Pittsburgh 30, Pa.

Motor Sentinel is a new switch with a built-in thermal element for overload protection and only a heater element that is interchangeable for changing conditions. The heater will provide sufficient delay to start a motor without opening the circuit when it is the correct size for the given motor. It will open the circuit to protect the motor on a sustained or damaging overload. Motors to 1 hp. can be handled on 110-volt a.c. or d.c.

The switch is available with single or double-pole construction to mount in a standard wall box, machine cavity or other enclosure. It also is made in various NEMA enclosures for special services including operation in hazardous locations. The standard surface mounting unit shown in the illustration measures about 2¾ by 2¾ by 4¾ in. overall dimensions.

BRIEFLY—identify by IEN - 7552 if you write the maker

COOLING . . Drinking fountain, bottle type with refrigerator storage

Source: CORDLEY & HAYES
443 Fourth Ave., Room 1005, New York 16, N. Y.

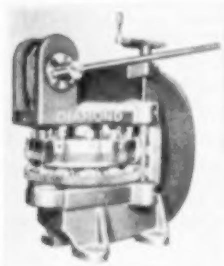
50 degree water
50 office workers

Model GC is a new bottle type electrically operated water cooler with a refrigerated storage compartment of about ½ cu. ft. capacity. The unit takes a 5-gal. water bottle. Its refrigerating equipment is hermetically sealed. Overall dimensions are 16 by 16 by 41 in. without the bottle.

BRIEFLY—identify by IEN - 7553 if you write the maker

PRESS . . Hand operated turret unit, 10 ton or 1½ in. in ⅛ in. steel

Source: DIAMOND MACHINE TOOL CO.
3425 E. Olympic Blvd., Los Angeles 23, Calif.



New press mounts an indexing turret carrying twelve punch and die positions that can be rotated one at a time into engagement with the hand-operated ram. Throat dimension in the operating position is 12 inches. The press is suited for punching, embossing, shallow forming. Punch and die turrets are geared to hold the tools in exact alignment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

BRIEFLY—identify by IEN - 7555 if you write the maker

DO YOU KNOW?

—that a PILOT LIGHT CAN IMPROVE YOUR PRODUCT . . .add attraction—safety—service?

Ask **DIALCO**

— what lamp to use
— how to use it
— what it will do
— what it will cost

THIS MAY BE THE ONE

Designed for low cost NE-51 Neon

- Built-in Resistor
- Patented
- U/L Listed
- Rugged

Catalogue Number 521308 — 997 for 110 or 220 volts

SAMPLES for design purpose NO CHARGE

NEW! Write for the "HANDBOOK OF PILOT LIGHTS."

Write us on your design problems.

Foremost Manufacturer of Pilot Lights

The DIAL LIGHT COMPANY of AMERICA
900 BROADWAY, NEW YORK 3, N. Y.

BRIEFLY—identify by IEN - 7556 if you write the maker

PRODUCTION CURVES ARE RISING...

...at AMERICAN'S New Plant at WILLIMANTIC

Acres of the newest and fastest automatic machines are steadily boosting the production curves of both American Phillips and Slotted Fasteners.

This modern, streamlined plant will soon be one of the top-production units of the screw industry . . . deliveries expedited by national distribution which is now geared up to greater efficiency than ever before. Willimantic production and shipments will be supplemented by our Norristown, Pennsylvania, plant and Chicago warehouse.

AMERICAN SCREW COMPANY
Plants at Willimantic, Conn. and Norristown, Pa.

AMERICAN SCREWS

BRIEFLY—identify by IEN - 7550 if you write the maker

TEFLON STOCK

Sheets
Cylinders
Rods
Tubing
Bars

IMMEDIATE DELIVERY

We supply Teflon stock in any quantity without delay. Our selection, the most complete in the country, includes many special items, such as unoriented sheet Teflon (starting at 1/16" thickness) in sizes up to 36 x 36"—the largest sheet Teflon offered anywhere.

Teflon, DuPont's new wonder plastic, is unequalled for chemical inertness, adhesion resistance and dielectric strength. Teflon cannot be attacked by nor contaminate any industrial acid, solvent, caustic, oil, gas, etc. It's extremely tough and suitable for temperatures from —150° F. to 550° F. (recommended for higher temp. in some cases). Teflon is the perfect answer to countless product and equipment problems throughout the processing, chemical and electrical industries. Teflon stock is easily machined or cut into whatever parts you need, so whether you're ready for quantity production or merely wish to evaluate, send us your requirements. We can help you cut costs in many ways.

For complete information on Teflon and Teflon stock, write for Catalog No. 300. We also manufacture Teflon parts, supplying special shapes molded exactly to your specifications.

Teflon Products Division

UNITED STATES GASKET COMPANY
658 N. 10TH STREET • CAMDEN, NEW JERSEY

BRIEFLY—identify by IEN - 7554 if you write the maker

As Simply, Quickly, Easily as Taking Temperature

Just a flick of switch, then read the Brookfield dial, and you have your viscosity determination in centipoises. The whole operation, including cleaning up, usually is accomplished in *less than a minute*.

Available in a variety of models suitable for extremely accurate work with a wide range of materials, both Newtonian and non-Newtonian, the Brookfield Viscometer is portable and plugs in any A.C. outlet — *can be used in lab, plant, or both.*

Write today for fully illustrated 8-page catalog.

NEW! Two motors and exclusive counter-rotating action make new Brookfield Laboratory Mixer quickest, most effective on market. Creates annular flow, provides scissor-like shearing, and stops messy slop-overs. Write for descriptive brochure "M".

Brookfield ENGINEERING LABORATORIES, INC.
235 PORTER ST., STOUGHTON, MASS.

BRIEFLY—identify by IEN - 7557 if you write the maker

Bond STRUCTURAL STEEL CASTERS

Companions in Strength

for easy, efficient movement of materials

40-A Series — Double Ball Race Structural Steel Swivel Caster. 41-A Series—Structural Steel Rigid Caster. 140-AH Series—Heavy Duty Double Ball Race Structural Steel Swivel Caster.

140-A-HVS Series — Structural Wheel Double Ball Race Structural Steel Swivel Caster.

Bond Structural Steel Casters are available with Plate or Roller Bearing Wheels of Semi-Steel, Solid Rubber and Cushion-Tread Rubber Tread. Thread Guard types also available.

THESE Bond *built-for-the-job* casters are all members of one family of structural steel casters. Each of the three series of swivel casters has a double ball race designed for easy turning and for equal distribution of the load. All four series are built to withstand heavy loads and sudden shocks, and are pressure lubricated for long service life.

Bond Catalog K-38 fully describes these and other Bond Truck Casters. We will be glad to send you a copy on request.

BOND FOUNDRY & MACHINE COMPANY
304 PENN ST., MANHEIM, PA.

▼ QUICKIT—Identify by IEN-7558 if you write the maker ▼

A TOOL BOX AT YOUR FINGERTIPS

SET NO. 1 FOR SMALL SHOPS

Continental Interchangeable Counterbore sets give you a wide variety of cutting tools in a compact, convenient form. Three sets are available, for the large or small toolroom. Each set features the famous Continental indestructible drive that will not stick, will not break, and is always hand detachable. Full details are given in Bulletin D27161. Send for your copy.

CONTINENTAL TOOL WORKS
Division of Ex-Cell-O Corporation
Detroit 32, Michigan

CTW

▼ QUICKIT—Identify by IEN-7559 if you write the maker ▼

HANSEN

"PUSH-TITE" PNEUMATIC-HYDRAULIC COUPLINGS

Positive shut-off in socket immediately upon disconnection by removal of plug. To connect, simply push plug into socket. To disconnect, merely pull back sleeve. Holds high pressures. Swivel action prevents hose kinking. Pipe or hose connections. Socket, brass; plug, steel. Size range ¼" to 1".

Also straight-through, and two-way shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

▼ QUICKIT—Identify by IEN-7560 if you write the maker ▼

NO PUSH NO PULL with Moto-Bug

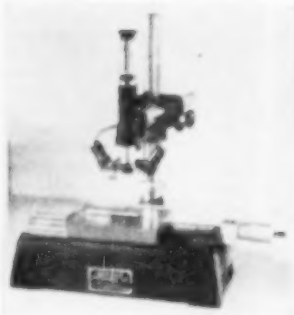
WHEN you haul with Moto-Bug you have full power forward and reverse . . . for traveling 1½ to 4 m.p.h. in either direction . . . for backing up . . . for spotting. There's no pushing, no pulling. Operator takes it easy . . . rides on rear step . . . has positive steering wheel for effortless driving. Handy 33" width clears narrow doorways, crowded aisles . . . turns in own length. Simple, standard-make 4 h.p. gasoline engine takes full load up 30% ramps. Carries 10 cu. ft. in big-capacity hopper . . . 1200 lbs. on sturdy 4-ft. flat-bed platform. Fork-lift attachment available. You'll be surprised at the low initial cost . . . Moto-Bug quickly pays for itself with more production per man-hour. Get the facts from your Kwik-Mix distributor, or write us NOW.

KWIK-MIX COMPANY PORT WASHINGTON, WIS. (Kwikring Subsidiary)
Also Mfrs. of: CONCRETE • PLASTER • BITUMINOUS MIXERS

▼ QUICKIT—Identify by IEN-7561 if you write the maker ▼

GAGE . . Toolmakers' microscope for linear, coordinate, angular readings

Source: BOECKELER INSTRUMENT CO.
29-33 E. Rillito St., Tucson, Ariz.



Model 1 is a new measuring instrument providing a work range in within a tolerance of .0001 in. and magnification of 25 X. The work mounts on a cross-sliding stage on the base for fine movements by hand. Accurate adjustment and measurement permit it to be used as a comparator. From the non-rotating stem of a micrometer head mounting a 20-thread screw. This thread movement permits working off the barrel to 30 degrees for a compact mode and access to the measuring surfaces.

Illumination is provided by two adjustable miniature lights mounted at the bottom of the base. Standard eyepieces are at a 60-deg. angle of intersection. To filar eyepieces and special or standard reticles can be supplied. List price is $415.

▼ QUICKIT—Identify by IEN-7562 if you write the maker ▼

ENGRAVING . . Two piece cutter applies adjustably in collet chuck

Source: PITTSBURGH STENCIL & TOOL CO.
401-7 Penn Ave., Pittsburgh 22, Pa.

Two ground parts made of tool steel, each a semi-half circle in cross section, are shaped to provide cutting edges at one end in this new engraving cutter. They apply together in a cutter chuck, one a little ahead of the other until it has been worn down. Then the positions are reversed. Each can be reshaped many times. Four sizes are 5/32, 3/16, ¼ and 5/16 inch.

▼ QUICKIT—Identify by IEN-7563 if you write the maker ▼

LIGHTING . . Informal booklet on fluorescent lighting and the company's service

From: Cir
[illegible] Bridge Plaza N., Long Island City 1, N. Y.

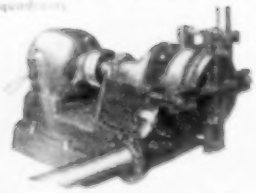
"The Facts of Light" (also 16 pp.) 16-page pocket booklet written and illustrated by Don Herring, subtitle is "Or What Every Man Should Know Before He Gets Engaged (In Boy-Girl Discussion)." The booklet describes in informal manner points such as making a fluorescent lighting installation survey, the five-time advantages of good lighting, and the company's fixtures and engineer-lighting service.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 16

▼ QUICKIT—Identify by IEN-7564 if you write the maker ▼

Only the New TYPE "R" MORRIS SLURRY PUMP has these 4 features

1. Gland is under suction pressure only. This feature practically eliminates packing troubles.
2. For dismantling, you need remove only four bolts. No internal studs or bolts . . . no troublesome fits or joints.
3. You can remove impeller and liner without disturbing piping.
4. Shell interchangeable for right or left-hand rotation. Suction and discharge nozzles can be rotated to positions in any of four quadrants.



The New Type "R" Morris Slurry Pump handles coarse or acid mixtures containing abrasives or solids, also are used as circulators, recharge, slag transfer from filters and classifiers.

Write for specifications and performance data on pumps best suited to your particular needs. No charge or obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Sales Offices in Principal Cities

MORRIS CENTRIFUGAL PUMPS

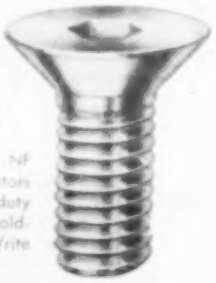
▼ QUICKIT—Identify by IEN-7565 if you write the maker ▼

5 WAYS A BETTER BUY

1. Maximum head contact
2. Head perfectly concentric with body
3. Burnished threads - class 3 fit
4. Flush head surfaces
5. Non-slip hex wrenching

Allen

FLAT HEAD CAP SCREWS



In 95 standard sizes, NC and NF threads from leading distributors everywhere. Ideal for heavy duty fastening of thin plates, strips, moldings and sheet metal parts. Write factory for full information.

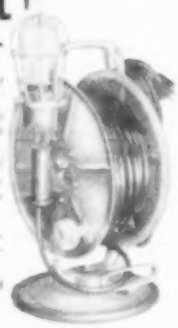
WARNING
Allen-Type screws aren't necessarily Allen-Made. Get genuine "Precision-Tested" Allen Head screws in this black and silver box.

ALLEN ALLEN HEAD
MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.

▼ QUICKIT—Identify by IEN-7566 if you write the maker ▼

Makes Extension Cords Last 5 Times as Long!

PORT-O-REEL CORD SAVER



- *Handling loose cord costs you money!* Port-O-Reel eliminates kinks, knots, "birds nests" . . . Saves up to 300% in handling time. Gives any length cord when, where, and how you need it . . . long cord handling short cord ease . . . Re-wind 150 ft. of cord in 15 seconds! Cord exposed to wear only when unwound . . . makes cord last 5 times as long. Equip with any kind of cord.
- Weighs only 9 lbs. less cord and plugs . . . Reel dia. 12" . . . width 4" . . . Has free-turning winding knob.
- Available with or without cord and hand lamp.
- Has moisture proof, running constant collector ring. Permits cord use as reel turns.
- Low, level-wind cord guide prevents kinks and knots. Balance prevents tipping. Rubber base prevents slipping.

Save up to 300% on cord handling EXPENSE!

Write today for catalog . . . complete with review of reports investigators

INDUSTRIAL ELECTRICAL WORKS
1503 Chicago Street . . . Omaha, Nebraska

▼ QUICKIT—Identify by IEN-7567 if you write the maker ▼

THEY TAKE UP THEIR OWN WEAR
The unique construction allows the wings to wear uniformly, regardless of age.

LEIMAN AIR PUMPS

For vacuums up to 29 in. and pressures to 25 lbs.

LET AIR DO THE JOB FOR YOU

Air can be the "invisible hand" to help you perform tireless moving, holding, mixing, separating, blowing, and lifting operations. Investigate the possibility of letting vacuum or air pressure provided by a Leiman Air Pump do the job for you more easily and economically. Send us your handling problem today and let our engineers go to work on it. Over 30 years of air pump application experience may help you.

NEW CATALOG NOW AVAILABLE

Descriptive 16 page catalog complete with engineering data, will give you the story on Leiman Air Pumps, Gas Pumps and Air Motors.

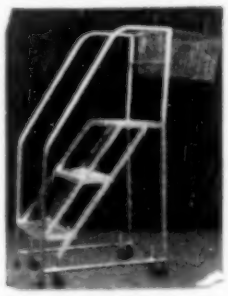
Write to Leiman Bros., Inc. 166 Christie St., Newark 5, N. J.

AIR PUMPS • AIR MOTORS • SAND BLASTS • DUST COLLECTORS

BREEZY—Identify by IEN-7568 if you write the maker

NEW SAFETY STEP-LADDER IS SAFE, CONVENIENT, DURABLE

Casters carry ladder but rubber-tipped legs "lock" to floor when in use.



You can increase storage capacity of floor area, speed stock and pick-up operations when Ballymore Safety-Step Ladders are used in store- and file-rooms. Of all-steel construction, these ladders are strong, yet easily moved along aisles as casters automatically engage when no one is on the ladder. Danger of the ladder starting to roll when in use is eliminated automatically.

Baskets, which are optional equipment on handrail models, leave both hands free, make possible larger loads, fewer trips. One- and two-step ladders have no handrails, three-step ladders are supplied with or without handrails. Four- and six-step ladders have handrails.

WRITE TODAY FOR FREE ILLUSTRATED CATALOG

THE BALLYMORE COMPANY

Wayne 4, Pa.

BREEZY—Identify by IEN-7569 if you write the maker

A DESIGN TO REMEMBER

. . . how electrical insulating materials made with

FIBERGLAS* Yarns help achieve light weight, minimum bulk and lower cost!

Engineers at Hevey Industries, Inc., Belleville, New Jersey, used insulating materials made with Fiberglas yarns and silicones to produce the first 100 amp. portable fast charger ever offered to automobile service stations.

This new battery charger is 50 per cent lighter and far smaller than conventional fast chargers.

Fiberglas yarns not only permit light weight and reduced bulk in this design, but also are basically resistant to the ravages of heat, moisture, oil, and most acids.

Consider the advantages of insulating materials made with Fiberglas glass yarns in the design of your products! A manual describing these materials is ready now. Send for your copy today.

OWENS-CORNING FIBERGLAS Yarns

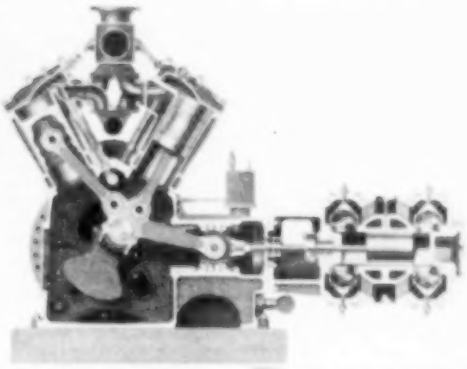
*Fiberglas is the trade mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of glass products made by its wholly owned subsidiary.

Owens-Corning Fiberglas Corp., Industrial Textile Sales Division
Dept. 920, 16 East 56th Street, New York 22, N. Y.

BREEZY—Identify by IEN-7571 if you write the maker

COMPRESSOR . . Gas engine driven for air, gas, refrigerant in process

Source: INGERSOLL-RAND CO.
746 Morris Ave., Phillipsburg, N. J.



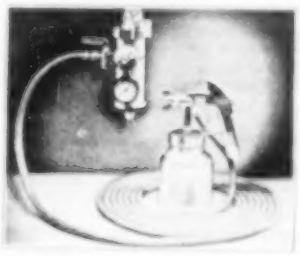
Type JVG designates new multiple assembly of compressor cylinders in horizontal position on the side of a V-type 4-cycle gas engine. Three sizes in the line employ engines rating 110, 165 and 220 hp. These engines have 4, 6 and 8 cylinders with 8¼ in. bore and 9 in. stroke. There are 2, 3 and 4 compressor cylinders with several available types of valves and arrangement for single or multistage operation. Rating is based on 27.5 hp per cylinder at 500 rpm.

Construction includes a flat-bottom crankcase to apply on a small flat foundation, forged crankshaft and connecting rods, babbitt-lined bearings, aluminum pistons, pump-equipped water circulation, force-feed lubrication, safety devices to guard against excessive water temperature, low oil supply and overspeeding. Gas feeds through a constant-quality mixing valve which provides a single adjustment for all of the cylinders. Overall dimensions are 101 by 74 by 70 in. for the smallest unit, 191 by 124 by 75 in. for the largest.

BREEZY—Identify by IEN-7572 if you write the maker

POLISHING . . Wax spray gun for use in motor vehicle maintenance

Source: BINKS MFG. CO.
3122 Carroll Ave., Chicago 12, Ill.



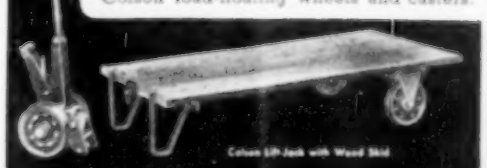
Model S-555 wax-spray equipment includes a spray gun with a quart container for liquid polishing wax, a 25-ft. length of hose and the required connections and an assembly of pressure regulator and a Model AO-102 oil and water extractor. The container is made of aluminum and has a screw connection to the gun. The wax itself produces a gleaming polish finish without rubbing or buffing when it is correctly applied. Similar applications can be made on paint equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREEZY—Identify by IEN-7573 if you write the maker

Colson LIFT-JACK Systems Save Time, Money, Effort

Put new hustle in your materials-handling with Colson Lift-Jack Systems. Through production, in and out of storage, on and off freight cars, one Colson Lift-Jack with wood or steel platforms does the work of many conventional hand trucks, saves time & money. Other cost-cutting Colson equipment includes drum and barrel trucks, platform trucks, hand trucks and famous Colson load-floating wheels and casters.

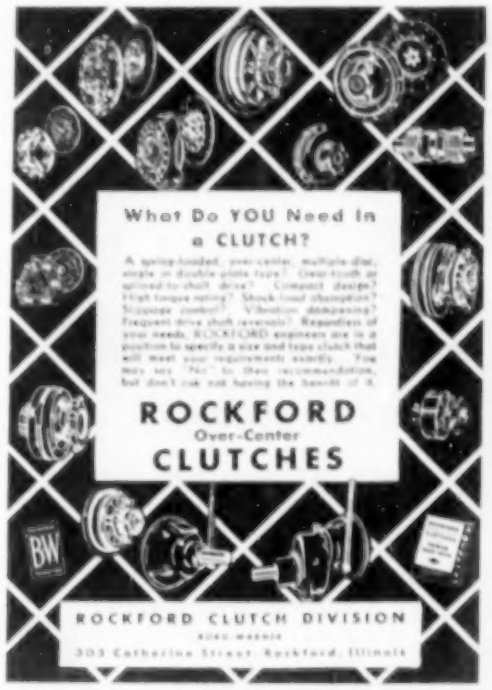


Colson Lift-Jack with Wood Skid

Write Today For Free 56 Page Catalog

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

BREEZY—Identify by IEN-7574 if you write the maker



BREEZY—Identify by IEN-7575 if you write the maker

Factory maintenance and production men everywhere hail this new pump as the most efficient hand pump ever designed for its purpose. Fast, easy to operate with unusually high suction. Pumps on both forward and back strokes. Handles petroleum products, paint oils, other industrial liquids. Light weight. Low cost. Trouble-free. Available for drum or underground tank use with hose or spout outlets.

INVESTIGATE this remarkable pump today. Call your Tokheim representative or write the factory for literature and prices.

General Products Division
TOKHEIM OIL TANK AND PUMP CO.
1654 Wabash Avenue, Fort Wayne 1, Indiana
Factory Branch: 1209 Howard St., San Francisco 3, Calif.

BREEZY—Identify by IEN-7576 if you write the maker

Hydro-Clone Eliminates Odors *from* oil-blowing tanks

The nauseating discharge from two oil-blowing tanks in a paint and varnish works became a neighborhood nuisance. A single Whiting Type "S" Hydro-Clone (photo at right) eliminated the fumes so completely that odors could scarcely be detected at the exhaust.

Type "S" Hydro-Clone is extremely efficient in disposing of gases and fumes as well as fine dusts. It handles hot air and gases up to 1,200F . . . is available in capacities from 2,000 to 50,000 cfm. Fully described in Bulletins FY-110 and FY-166.

Whiting Hydro-Clones are available in types for every industrial need.

WHITING CORPORATION
15629 Lathrop Ave.
Harvey, Illinois

FREE New booklet of Practical Information on Dust Collection. Ask for Bulletin FY-142

DIRECT—Identify by IEN-7577 if you write the maker

another FIRST in McGILL precision bearings

a NEW PRINCIPLE in roller bearing design

The NEW McGILL GUIDEROL roller bearing

The Bearing with the Self-Aligning Rollers — a simple, solid roller bearing construction that automatically corrects roller skewing — without space-wasting cages! Perfect roller alignment with resulting superior performance is maintained by this new principle of guided rollers. Even with reduced internal radial looseness a GUIDEROL bearing overcomes any tendency to bind under limited misalignment. Produced in needle and cylindrical type roller bearings.

Write for your copy of the new GUIDEROL Bearing Bulletin No. GR-50. Address: McGill Manufacturing Co., Inc., Bearing Division, 100 N. Lafayette St., Valparaiso, Indiana.

McGILL precision bearings

DIRECT—Identify by IEN-7578 if you write the maker

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!

Pilbeth Packing

One of the most difficult problems in tool making can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of machined square holes can be had in boring bars, milling cutters and many other applications, at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

BUSHINGS MADE IN FOLLOWING SIZES

Write for Literature

STURDY BROACHING SERVICE

1914 TELEGRAPH ROAD, DETROIT 19, MICH.

DIRECT—Identify by IEN-7579 if you write the maker

PROTECT YOUR PRODUCTS DURING SHIPMENT with

S.S.White PLASTIC DUMMY SHIPPING PLUGS AND CAPS

Made of tough, non-brittle plastic. Available from stock molds in a wide range of sizes. Details in BULLETIN P-4601. Copy mailed on request.

CONTRACT MOLDING on all standard thermoplastic and thermosetting materials

S.S.WHITE PLASTICS DIVISION

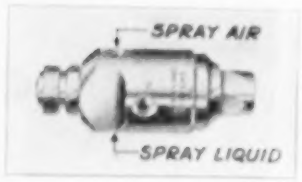
THE S. S. WHITE DENTAL MFG. CO. DEPT. IND., 10 EAST 40th ST., NEW YORK 16, N. Y.

FLEXIBLE SHAFTS AND ACCESSORIES · MOLDED PLASTICS PRODUCTS · MOLDED RESISTORS

DIRECT—Identify by IEN-7580 if you write the maker

SPRAYING . . Pneumatic nozzle for valve controlled liquid spraying

Source: SPRAYING SYSTEMS CO. 3208 Randolph St., Bellwood, Ill.



Three inlets are provided in the main housing of this new No. 1-4JAU pneumatic atomizing nozzle. One in the top, as the nozzle is shown, is for atomizing air. One directly below it is for liquid supply. Both are ¼ in. pipe threaded. The third ¼ in. pipe thread inlet is in the side for connection to a valve equipped air line. This connection leads to a spring-locked piston at the rear of the nozzle to retract a needle that opens the delivery port in the opposite end. The needle will deliver atomized liquid as long as pressure is on the piston. If closure takes, this pressure is released.

The needle and its seat head of the nozzle are made of stainless steel. Tested, multiple-round of flat spray can be specified. The nozzle is available also for applications of pressure-liquid supply. Length is 2⅝ inches. Diameter is 1¼ inches.

DIRECT—Identify by IEN-7581 if you write the maker

GENERATOR . . Variable frequency, three phase, 1 kva., 50 to 500 cycles

Source: ELECTRIC SPECIALTY CO. 210 South St., Stamford, Conn.

Output frequency is variable in this new generator assembly by varying the speed at which it is driven between 353 and 4750 rpm. Output also varies between 100 and 130 amp. and 25 to 250 volts. Temperature rise on full load is maximum at 75 deg. F. above ambient temperature.

The assembly employs a 5-hp. 60-cycle synchronous motor and exciter mounted on a common shaft and assembled on top of a Reeves variable-speed transmission. Connection is by chain to the input shaft from the motor. The 3-phase generator is coupled to the output shaft of the transmission and the fan are secured on a common base.

DIRECT—Identify by IEN-7582 if you write the maker

GLASS . . How it is made described in booklet on the Fourcault process

Fourco Glass Co. 401-5 Union Bank Bldg., Clarksburg, W. Va.

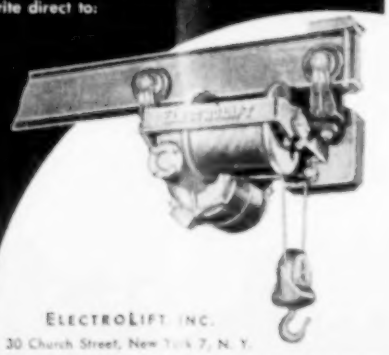
Historical background occupies eight of the 36 pages in new booklet, "The Story of Glass". Drawings and pictures show steps in the Fourcault process of making sheet glass by drawing it through asbestos-covered rollers. There is a glossary of terms and a bibliography on glass.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER. Descriptions · Ratings · See Page 50

DIRECT—Identify by IEN-7583 if you write the maker

ELECTROLIFT speeds production

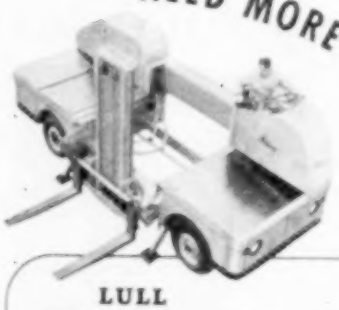
because you can move materials much quicker. Easy one-man operation handles loads up to 6 tons . . . frees manpower for other assignments. This worm-drive electric hoist performs quietly and economically. Savings accumulated with an ElectroLift will more than pay for its installation. Complete details on the model that suits your capacity, speed and plant layout needs will be supplied by your nearby ElectroLift representative, listed in the classified telephone directory. Or write direct to:



ELECTROLIFT, INC. 30 Church Street, New York 7, N. Y.

DIRECT—Identify by IEN-7584 if you write the maker

NEED MORE SPACE?



LULL Traveloader

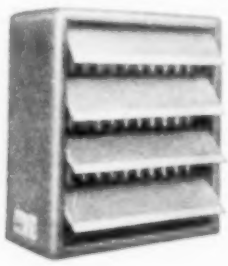
EXPANDS THE SPACE YOU HAVE!

● Where ground or floor space is at a premium, the TRAVELOADER makes more use of every square foot! Because of its exclusive side loading feature, it needs no room for backing and turning, as from loading ground-level. Operates in aisles little wider than its own body—stores 60% more large material in a given area than from loading equipment. Handles lengths from 8 to 16 feet. Distributes loads equally on 2 axles, 4 wheels. Lessens danger, complete new system of straight-line pickup, carry and delivery. If you have loads to be picked up, loaded, moved, stacked, investigate the TRAVELOADER. Write for literature, specifications, prices.

LULL MANUFACTURING CO. 1614 E. 44th Street, Minneapolis, Minn.

DIRECT—Identify by IEN-7585 if you write the maker

Ten basic sizes with capacity sections to Mbh to 140 Mbh. Totally enclosed motors.



nyb

COMET UNIT HEATER

Horizontal Type

Ceiling suspension type with heavy duty, welded steel, fin and tube heating element. (Extra heavy non-ferrous coils also available.) Suitable for continuous heating service on steam pressures up to 150 pounds or more.

Bulletin 485

Vertical, Projection Type Also Available

For efficient heating from high-ceiling areas—for door heaters over small openings—or where the horizontal type Comet Heater is not applicable. Ten basic sizes; capacities from 27 to 142 Mbh.

Bulletin 484

IUHA

nyb THE NEW YORK BLOWER COMPANY

GENERAL OFFICES · 3180 SO. SHIELDS AVE. · CHICAGO 16

FACTORIES AT LAPORTE, IND. AND CHICAGO, ILL.

DIRECT—Identify by IEN-7586 if you write the maker

New!

TRANSALOID

TRANSPARENT NEGATIVE PAPER

Saves up to 50% in costs!

The ideal medium for true to scale reproductions of tracings, all types of diazo prints, white prints, and for making offset plates

● It's good business to keep up to date on new and improved products even if your present materials seem to be satisfactory. Transaloid's versatility makes it a natural in any reproduction department. Ideal for making diazo and white prints in quantity. Stands up without curling or turning brown. Excellent for use in making prints from discolored copy. Makes fine offset plates including halftones.

Transaloid is the answer to dependable, lower cost negative material. One large industrial organization reports on savings of 37½% in costs. Test it in your own plant at no risk to you.

We will send you 1 dozen sheets 10" x 12" Transaloid Negative Paper at the special price of $2.00 postpaid. If you are not completely satisfied, we'll refund your money.

The Haloid Company, 50-67 Haloid St., Rochester 3, N. Y.

BRANCH OFFICES IN PRINCIPAL CITIES

▼ BREVITY—Identify by IEN - 7587 if you write the maker ▼

You Don't Have To Be A SCIENTIST!

Anyone can operate the G-R STROBOTAC with a few brief instructions. They are this simple:

[illegible]

That's all there is to it. The price? Only $125.00, ready to use.

We would like to tell you how the STROBOTAC can help you in design, engineering, maintenance and sales.

Write for "EYES FOR INDUSTRY"

GENERAL RADIO CO.

Cambridge 39, Massachusetts

NEW YORK CHICAGO LOS ANGELES

▼ BREVITY—Identify by IEN - 7590 if you write the maker ▼

FILING . . Saw sharpening machine for band, hand and circular saws

Source: FOLEY MFG. CO.
3298-302 N. E. 5th St., Minneapolis 18, Minn.

Model 61 [illegible]

The assembly [illegible]

▼ BREVITY—Identify by IEN - 7593 if you write the maker ▼

NEW LEVELOCK SWITCH BOX

Easy Leveling

Locking Side Plates

[illegible]

GENERAL ELECTRIC

▼ BREVITY—Identify by IEN - 7588 if you write the maker ▼

FOR SAFETY *Interlock!*

PROTECT MEN AND EQUIPMENT AGAINST "MENTAL LAPSE"

KIRK KEY INTERLOCK *System*

Provides a predetermined sequence of operation . . . and prevents "mental lapse" which might cause damage to men and equipment.

[illegible]

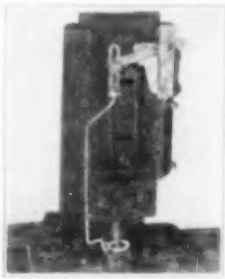
Write for Bulletin 1766 for many more details.

RAILWAY AND INDUSTRIAL ENGINEERING CO.
KERN STREET . . . . GREENSBURG, PENNSYLVANIA

▼ BREVITY—Identify by IEN - 7591 if you write the maker ▼

PROTECTING . . Kick press guard prevents ram travel when obstructed

Source: WHITE CORP.
5158-62 N. 35th St., Milwaukee 9, Wis.



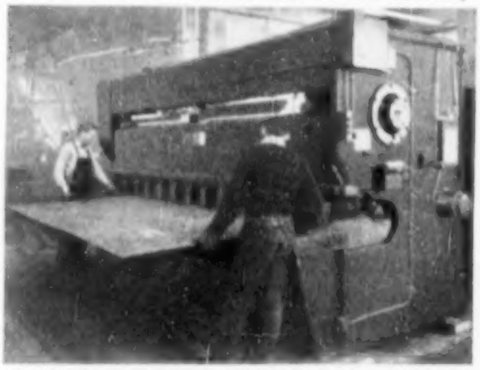
Sentry Guard [illegible]

When the press [illegible]

The guard [illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 58

▼ BREVITY—Identify by IEN - 7594 if you write the maker ▼



KNIVES STAY SHARP LONGER

Knives on the Steelweld Shear above were practically as sharp as new, after months of continuous operation, 8 hours a day, 6 days a week. Cut pieces were burrless, straight and true. Long knife wear is the result of important features built into Steelweld Shears, such as solid one-piece frame, pivoted blade and easy knife adjustment.

For better, faster, easier shearing get the facts on Steelweld Shears. For all plate up to 10'-0" long or 1¼" thick.

Send for free copy of catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
4222 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

▼ BREVITY—Identify by IEN - 7592 if you write the maker ▼

Now you can fasten V-belts by using

● Alligator V-belt Fasteners and the open-end V-belting now being made by belting manufacturers, will enable you to make up multiple V-belt drives from roll belting. These fasteners have been on the market 9 years and are now being used on a wide variety of drives.

Available for B, C, D sizes of belt for industrial use and 1-in. and 2-in. sizes for railroad use. These fasteners, however, should not be used for repairing endless cord V-belts.

Bulletin V-205 will give you complete details as to where and how these fasteners are used, sizes, list prices, tools and application instructions. A copy will be mailed at your request.

Order from your supply house

FLEXIBLE STEEL LACING COMPANY
4610 Lexington Street, Chicago 44, Illinois

Also sole manufacturers of Alligator Steel Belt Lacing for flat transmission belts and Flexco HD Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

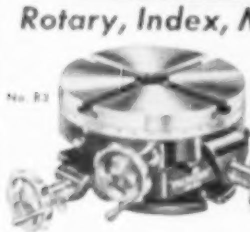
▼ BREVITY—Identify by IEN - 7595 if you write the maker ▼

DUAL CROSS and ROTARY FEED

PALMGREN

Rotary, Index, Milling Table

No. R3



Now Only $49.50

Turns Your DRILL PRESS Into A VERTICAL MILLER

[illegible]

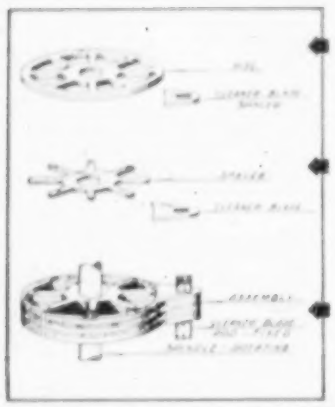
Order Today! If dealer can't supply, write us. Ask for Circular No. 10

CHICAGO TOOL and ENGINEERING CO.
Mfrs. of PALMGREN PRODUCTS Since 1918
8406 South Chicago Ave. • Chicago 17, Ill.

BREEZE—Identify by IEN-7596 if you write the maker

Non-Stop Fluid Cleaning

Why there's no loss of production due to strainer cleaning when you strain with Cuno AUTO-KLEAN



*Periodically by hand or continuously by automatic means

CUNO

Fluid Conditioning

Removes More Sizes of Solids from More Types of Fluids

All metal AUTO-KLEAN is guaranteed to remove all solids larger than specified openings (.0005 in. to .063 in.). Write for free AUTO-KLEAN bulletin. Cuno Engineering Corporation, 606 South Vine Street, Meriden, Conn.

BREEZE—Identify by IEN-7597 if you write the maker

DO YOU WANT TO MEASURE?

OIL LIQUORS CHEMICALS PAINT SOLUTIONS

For Accuracy and Convenience

USE EMPIRE *Industrial* METERS

You'll save time and money blending, batching, processing liquids with Empire meters. You'll get exact quantity, control, quick! You'll cut evaporation loss, reduce fire hazards, prevent contamination. Pipe sizes ½ to 3 in. a variety of registers. Automatic shut-off available on some models. Write for bulletin.

DEPT. I
PITTSBURGH EQUITABLE METER DIVISION
ROCKWELL MANUFACTURING COMPANY
Pittsburgh 6, Pa.

BREEZE—Identify by IEN-7598 if you write the maker

Which slow speed *do you need?*

WITH THIS One AMERICAN REDUCTION DRIVE YOU CAN GET THEM All!

STANDARD SHAFT MOUNTED REDUCTION UNIT MATCHES LINE A SHAFT

Quick easy speed changes No need to dismantle heavy gear equipment — Standard V-belt sheaves make the change a matter of minutes.

Maintenance reduced Standard V-belts absorb shock, protect equipment and motors from starting and shock loads.

Flexible—Easy to relocate ... and you can use one specification motor, one speed, any speed.

MAIL TODAY!

AMERICAN REDUCTION DRIVES

The American Pulley Company, 8244 Wissinoming Ave., Phila. 29, Pa.
Please send me complete information on American Reduction Drives.

NAME TITLE
COMPANY
ADDRESS
CITY ZONE STATE

BREEZE—Identify by IEN-7599 if you write the maker

LIGHTING . . Retrieving reel carries extension cord and hand socket

Source: AERO-MOTIVE MFG. CO.
1801-5 Alcott St., Kalamazoo 24, Mich.

New design of the company's Type SW-25 retracting extension light employs a housing that provides a rectangular opening for the cord in place of the pre-one restricted opening. The arrangement provides freedom for the cord to prevent binding and molten wear. The reel is mounted on a bracket to swing laterally. It is equipped with a spring-operated retracting action and carries 25 ft. of neoprene-covered cord.

The hand socket has a wide contoured metal to grip in a portable lind or additional extension cord. The socket carries a lamp guard. Base dimensions are 7½ by 3 inches. A 30-in. cord and plug are provided for connection to electric outlet.

BREEZE—Identify by IEN-7600 if you write the maker

VALVE . . Diaphragm operated, steam jacketed for molten materials

Source: G. D. JENSSEN CO.
P. O. Box 401-A, Watertown, N. Y.

Asphalt, wax, resins that must be kept heated to hold them in molten state can be handled by this new valve. It was designed initially for flow control of molten sulphur at 275 deg. F. in delivery to rotary vapolizers in processing of sulphite pulp for paper making.

Two sizes are ¾ and ¾ inch. Construction includes a diaphragm assembly employing air pressure to open and a spring to close. The stem is lubricated where it passes through the sealing box. It and the valve seat are chrome-nickel steel.

BREEZE—Identify by IEN-7601 if you write the maker

FORGING . . Instruction folder on assembly and finishing of carbide header dies

Carboloy Co.
11167 E. 8-Mile Road, Detroit 32, Mich.

Carboloy dies for bolt screw, rivet heading are described in new Upsetting Instruction Sheet D-127 as to assembly in a steel mounting case and finishing. There is a nomograph to determine amount of press fit required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREEZE—Identify by IEN-7602 if you write the maker

USE STAINLESS STEEL FLOATS

...IN THE PRODUCTS YOU BUILD

Manufacturers equip your products with the finest floats available—*Stainless Steel Floats* from Chicago Float Works. Your product can have no better assurance of long trouble-free float performance. You get all of the plus values of *Stainless Steel* along with Chicago Float Work's more than thirty years of specialized experience in engineering and building floats for industry.

....check these features

CORROSION RESISTANCE. Stainless Steel stands up better under severe services in many different kinds of corrosive fluids.

EXTREME STRENGTH. Will withstand pressures up 1000 lbs. Temperatures to 800°F.

LIGHTER. Less weight affords more buoyancy making for more positive float action.

COMPLETE LINE. Diameters 3 to 10 in. Special sizes to order—tailored to special float conditions. Write for catalog giving size, shapes, stud connections and complete engineering data.

CHICAGO FLOAT WORKS, INC.
2326 S. Western Ave., Chicago 8, Illinois

BREEZE—Identify by IEN-7603 if you write the maker

LIFE STORY of a JOMAC WORK GLOVE

1. First day on the job . . . and doing fine. Jomac cushions the hand, doesn't snag or tear.

2. Some time later . . . and a trifle worn. Presto! Shifts from right to left and starts a new life.

IT'S TRUE—Jomac Work Gloves revolutionize handling problems. They're reversible, flexible, long-wearing. They're easy to wash or dry clean. They protect against heat or cold. Write for complete details.

JOMAC WORK GLOVES
C. WALKER JONES CO.
6135 N. Lambert St. Philadelphia 38, Pa.

BREEZE—Identify by IEN-7604 if you write the maker

If you design, specify, maintain or use HEATING EQUIPMENT...

Here's "must-have" data for Product Engineers, Plant Engineers, Purchasing Agents, Maintenance Superintendents and Production Managers; information you need to stay on top of your job!

Prepared especially for you in Specification and Performance Sheet form, this brand-new catalog contains complete details on Immersion, Unit-Type, Finned, Rod-Type and other electric heaters. You'll find it helpful whether you use heat for chemical solutions, processing tanks, steam tables, ovens or a hundred-and-one other purposes.

Your files aren't complete unless you have this book. So . . . send for it—today!

Mail this Coupon right now—while you're still thinking about it.

Heat Engineered to Specific Product Applications

TK

TUTTLE & KIFT, INC. 1833 N. MONITOR AVENUE, CHICAGO 39, ILLINOIS
Subsidiary of Ferro Enamel Corporation

Gentlemen:
Please rush me my free copy of your new Electric Heating Unit catalog.

Name Title
Firm
Address
City Zone State

▼ BREEZE—Identify by IEN-7606 if you write the maker ▼

from STOCK— LINK-BELT Babbitted Bearing Pillow Blocks

LINK-BELT COMPANY

▼ BREEZE—Identify by IEN-7607 if you write the maker ▼

it's here...

The NEW, REVOLUTIONARY Collapsible "PHIL-BOX"

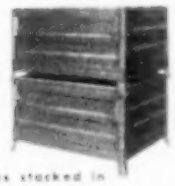
Collapses from 28⅞" to 9 1/16" in Height

Sides are collapsed and placed in upright position ...in less than 20 seconds!

MODEL B 20

The new Phillips collapsible 2000 lb. capacity material handling "Phil-Box" is designed for saving space in storing and transporting bulk materials and parts. Quickly and easily collapsed or erected, the box interior measures 49" x 37" x 24". The "Phil-Box" has no pins or loose parts. Made of heavy gauge corrugated steel, it is of all welded construction with smooth rolled edges for maximum safety. Can be stacked in collapsed or upright position. Fork lift or pallet truck can enter from all four sides for easy lifting.

Boxes stacked in collapsed position.



Boxes stacked in upright position.

Write for Bulletin E-14

MANUFACTURERS SINCE 1901 PHILLIPS PITTSBURGH PA

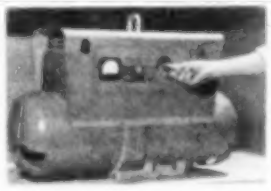
MATERIALS HANDLING EQUIPMENT

2300 JANE STREET · PITTSBURGH 3, PA.

▼ BREEZE—Identify by IEN-7609 if you write the maker ▼

BATTERY CHARGER . . Motor-generator, timed control for industrial batteries

Source: GENERAL ELECTRIC CO. Dept. 6X-201, Schenectady 5, N. Y.



Model 6BMbc1 charging units use motor-generator battery charger available in two ratings to 500 amp hr. and 150 amp hr. to serve lead-acid batteries of 12 to 24 cells and nickel-iron batteries of 20 to 22 cells. Provision is made for quick adjustment of current for a given battery size by using, for example to serve a battery with a given number of cells and to suit the action for lead-acid or nickel-iron alkaline batteries. Operation is on 3 phase 60 cycle 220/440 volt ac to the motor.

Assembly includes across the c-c starting equipment for the motor, a master switch to select manual-off, automatic operation, a field rheostat for the generator, a reverse-current relay, dc load protector, dc thermal overload protection, TYR relay and timer for time or time-voltage charge control and a 10 ft. length of charging cable.

Following initial setup a battery is plugged in, the timer is set and automatic action starts. The charge is tapered off as required without requiring operator attention and is stopped at the correct point. Power interruption results in resuming the charge cycle with automatic restart when power has been restored to the supply line.

Bulletin GEA-5163A, 4 pages, provides complete data and drawings with operating characteristics and specifications.

▼ BREEZE—Identify by IEN-7610 if you write the maker ▼

COMMUNICATING . . Two-way radio with batteries, microphone and antenna

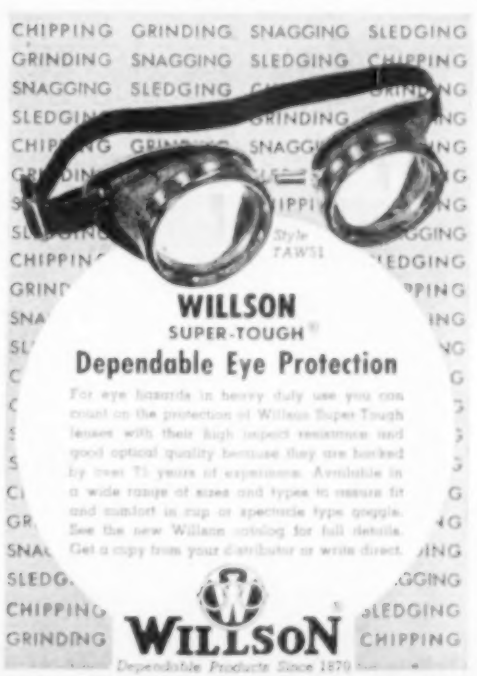
Source: MOTOROLA INC. 4543-47 Augusta Blvd., Chicago 51, Ill.

FM Pack Set is a new 10-lb. assembly of 8 tube transceiver, 10 tube receiver with loud speaker, microphone and antenna to be carried as hand or on the back as is most fitted to circumstances. Energy requirements are about 18 hr. 5 hr. 11 hr. Five standard 67½ volt B batteries and two 4 volt 1½ volt A batteries will give eight hours of normal operation divided into 10 per cent transmit, 10 per cent receive and 80 per cent standby.

The design is for operation on the 25-30 mc band with power output of 300 mc/watts to an the 152-174 mc band with 250 mc/watts output. Operating range is two to five miles between two pack sets, seven to ten miles between a pack set and a mobile unit. Sub-miniature tubes are employed in assembly for ease of replacement. The flying lead speaker and an adjustable swatch strap make it possible to hand out drawing over the operator's shoulder when back carried or to nearby working areas when the set is stationary. At the same time it remains quiet during standby periods.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREEZE—Identify by IEN-7611 if you write the maker ▼



WILLSON PRODUCTS, INC., 217 WASHINGTON ST., READING, PA.

▼ BREEZE—Identify by IEN-7612 if you write the maker ▼

CALROD* soldering irons

PRODUCTION MEN LIKE 'EM! . . . because G-E Calrod soldering irons are "ready for work" on continuous or intermittent soldering jobs. Calorized and ironclad tips last long, stay clean, solder fast and are easily removed!

MANAGEMENT LIKES 'EM! . . . because simple, sturdy construction like the 18-8 stainless steel shell, stands up under hard use and abuse—keeps them on the job longer—with fewer replacements!

MAINTENANCE MEN LIKE 'EM! . . . because of features like this cord-strain insulator which withstands a pull of 35 pounds. And they need only pull the pin in the handle to slip the cartridge heater right out for servicing—when it's occasionally needed!

FOR FREE BULLETIN, GEA-4819B, just ask your G-E distributor or write to *Section 120-20, Apparatus Dept., General Electric Co., Schenectady 5, New York.*

*Reg. U. S. Pat. Off.

GENERAL ELECTRIC

▼ BREEZE—Identify by IEN-7613 if you write the maker ▼

here's real power

Less than six inches long . . weighing but 4½ pounds—new Reversible Air Impact Wrench (CP-3140) has 50% more power than any previous model of similar weight. Power regulator controls tightness of nuts, assuring uniformity of nut-running on production line jobs. Ideal in maintenance work for tightening or removing nuts, bolts, wood screws, lag screws, studs—works in places where longer tools cannot be used. Write for Bulletin SP-3011.

CHICAGO PNEUMATIC TOOL COMPANY

General Offices: 8 East 48th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

▼ BREEZE—Identify by IEN-7614 if you write the maker ▼

Fireproof, weatherproof, vermin-resistant, rodent proof—all in one building board? That's right! Stonewall Board gives you all these features, and it is equally suited for indoor and outdoor construction, with a wide variety of uses.

Stonewall makes strong, durable exterior and interior walls and partitions—they can't rot or decay, are easily cleaned, need no painting. It is also the perfect material for ceilings, barriers, bonds, bandstands, stoves and ceiling stress linings or for any purpose where moisture or fire are hazards.

Write for free literature

STONEWALL BOARD

A PRODUCT OF

The RUBEROID Co.

BUILDING MATERIALS FOR INDUSTRY, HOME, AND FARM

Executive Offices: 500 Fifth Avenue • New York 18, N. Y.

▼ BREFITT—Identify by IEN-7615 if you write the maker ▼

New! **FAFNIR**

Spherical Roller Bearing Pillow Blocks

Two-piece split design housing. High-grade alloy iron, ribbed cast iron, oil or grease lubrication, bolt or free bearing mountings, adaptable for oil or water cooling, equipped with either felt seal or Fafnirtite triple labyrinth seals, bushings with closed ends when required.

Two types — full range of sizes. Adapter type mountings for shaft diameters from 1⅝" to 15½". Straight bore mounting for shaft diameters from 1⅝" to 4½".

Dunington, Self-Aligning Spherical Roller Bearings. Completely self-aligning to compensate for any practical angular displacement of shaft. High radial and two-direction thrust capacity for both types of load.

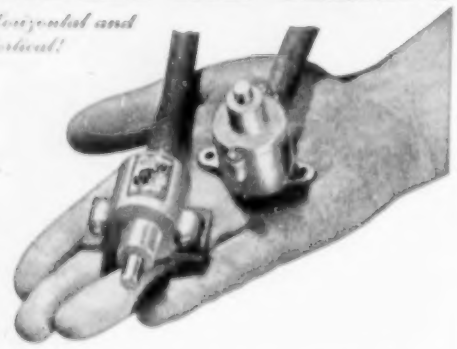
Write for literature. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL AND ROLLER BEARING PILLOW BLOCKS

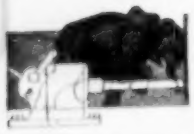
▼ BREFITT—Identify by IEN-7616 if you write the maker ▼

Cut Costs with MEAD MIDGET AIR CLAMPS

Horizontal and Vertical!



Both models deliver 30 lbs. pressure at a line pressure of 100 lbs. They'll save countless man-hours in assembly operations involving welding, riveting, bolting, etc. Advantages over mechanical clamps: . . . Any number can be operated by single master valve. 2. Easily installed in cramped quarters. 3. Equal ram pressure at any stroke point. Send for new Mead AIR POWER Catalog, describing our line of Air Clamps, Air Vises, Air Presses, Work Feeders, Valves, Controls, etc.



MEAD SPECIALTIES COMPANY

618 NORTH ANSON AVENUE
DEPT. E-M-A • CHICAGO 41, U. S. A.

▼ BREFITT—Identify by IEN-7617 if you write the maker ▼

MANUFACTURERS LARGE OR SMALL

INDUSTRIAL WHEELERS

MODERN MACHINERY

. . . SERVE THEM ALL!

MM Industrial Wheelers have extra SPECIALTY to do the work of large expensive equipment on a fraction of the cost. . . . FLEXIBILITY for loading, digging, and dozing, or drawbar work. UTILITY on maintenance jobs that include sweeping and mowing. . . . ADAPTABILITY of design to fit a complete selection of attachments to handle all jobs and to operate under all working conditions.

Get complete facts on the MM Industrial Wheelers from dealer in your city.

MINNEAPOLIS-MOLINE
MINNEAPOLIS 1, MINNESOTA

For Your Special Information

ALL MAKERS ARE LISTED IEN S-25

It takes three volumes, plus a fourth containing an index, to make good in all useful directions on the statement which you see at the bottom of the editorial columns in IEN. This statement says "All makers are listed". It means just that. It means also that you can have, at your desk, this amazing of source information naming products, makers, addresses, trade names, for the approximate 140,000 United States manufacturers.

It will cost you $25 if your company has not previously purchased the books. It will be $12.50 if your company is among the approximate $5,000 in which the books are daily serving the purchasing departments.

Interested? Just check your reader service form, or write to Mr. W. C. Scollock, Circulation Manager, Thomas Publishing Co., 461 Eighth Ave., New York 1, N. Y. He will give you direct information.

INTERESTING CHEMICALS IEN S-26

Ever wonder how cleaning compounds actually work? Here's the answer for certain of them from Monsanto. The compounds contain a new chemical made up of split personality molecules. Shaped like straight pins, they are born between two forces, their hydrophobic or water hating heads and their hydrophilic or water-loving tails.

They are happy when dissolved in water only when the heads stick in and the tails stick out at the surface. As they crowd to the surface they break the surface tension in the water and thus make it better able to get under and around any dirt. Also the tails bury themselves in the dirt in preference to water and the resulting movement of dirt particles is carried away in the rinse. The company offers proof and details to sub-believers.

REPRESENTATIVES WANTED IEN S-27

One of our advertisers who makes industrial flooring materials to surface new floors and to resurface and patch old ones is looking specifically for sales agents to act as exclusive representatives in Albany, Buffalo, Cincinnati, Columbus, Dayton, Louisville, Rochester and Springfield, Mass. The company offers these territories as lucrative side or main lines to agents who are well and favorably acquainted with plant engineers. We will forward your name to the manufacturer if you want us to.

EXPOSITION IEN S-28

August 7 to 20 covers the period during which the first United States International Trade Fair will be held in Chicago. A part of it that will probably be of most interest to you will be the section dealing with industrial supplies and equipment. United States manufacturers will occupy about a third of the total space in all of the exhibits together, probably somewhat less than this amount in the industrial section. Austria, Belgium, Denmark, England, France, Holland, Italy, Japan, Norway, Sweden, Switzerland, Yugoslavia will all be represented. Equipment, tools, instruments, supplies for plant, laboratory and office will be on display.

Top Management:

YOUR BOOST

IS NEEDED MOST

▼ BREFITT—Identify by IEN-7618 if you write the maker ▼

THOMAS' REGISTER

of

American Manufacturers

$15.00 F. O. B. New York

Renewal $12.50

7,900 pages of vital information to facilitate effective purchasing of all products made in U. S. A.

HABITUALLY CONSULTED BY ALL DEPARTMENT HEADS REPRESENTING 80% OF THE TOTAL INDUSTRIAL PURCHASING POWER OF THE U. S. WHO ARE CONCERNED WITH WHAT TO BUY AND WHERE TO BUY.

96% ABC Paid Circulation

THOMAS PUBLISHING COMPANY
461 EIGHTH AVENUE • NEW YORK 1, N. Y.

▼ BREFITT—Identify by IEN-7619 if you write the maker ▼

Which job would you like to improve?

Listed below are some jobs discussed in Oakite's new 32-page illustrated booklet on Metal Cleaning. Let us help you do them with better results, greater economy.

OAKITE PRODUCTS, INC., 154 Thames St., New York 6, N. Y.

Tell me (without obligation on my part) about Oakite methods and materials for the following jobs:

- Tank cleaning
- Machine cleaning
- Electrocleaning
- Pickling
- Pre-paint treatment
- Paint stripping
- Steam-detergent cleaning
- Barrel cleaning
- Burnishing
- Rust prevention

Send me a FREE copy of your booklet "Some good things to know about Metal Cleaning"

NAME

COMPANY

ADDRESS

Technical Service Representatives in Principal Cities of U. S. & Canada

OAKITE SPECIALIZED INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

▼ BREFITT—Identify by IEN-7620 if you write the maker ▼

It's being proved every day: Valve leakage on any flow can be stopped!

DeZurik Easy-Operating Plug Valves are going into plant after plant because they don't leak . . . their exclusive rubber-faced plugs do a leakproof, drip-free job in any service from gas to acid to slurries.

Write for complete catalog.

DeZURIK SHOWER CO.
SARTELL, MINNESOTA

▼ BREFITT—Identify by IEN-7621 if you write the maker ▼

Accurately Made by EAGLE

Concentricity of head with shank. Clean finish on heads and threads—no burrs. Uniformity of centering and depth of slots. Qualities like these are the result of Eagle's precision manufacture. That's why you can always count on Eagle wood screws to give you the performance you want. Eagle wood screws come in standard sizes and heads. Also specials, when you need them.

Write for quotation.

THE EAGLE LOCK COMPANY

Terryville, Conn.

America's First Lockmakers Since 1851

WOOD SCREWS
MACHINE SCREWS
STOVE BOLTS

▼ BRIEFITS—Identify by IEN-7622 if you write the maker ▼

REDUCE PRODUCTION COSTS—F.O.S. Tape is handy, versatile, inexpensive. Simplifies production in many ways . . . Stays put—but can be removed quickly without requiring "cleanup." Let SEAMLESS analysts show you how to save time and money with F.O.S. No obligation! . . . *Write today for samples and prices.*

Finest Quality Since 1827

INDUSTRIAL TAPE DIVISION
THE SEAMLESS RUBBER COMPANY
NEW HAVEN 3, CONN., U.S.A.

▼ BRIEFITS—Identify by IEN-7623 if you write the maker ▼

BETTER 2 VITAL WAYS

1. Better Drawing
2. Better Printing

Ageproof VELLUM

Make this test yourself and KNOW you're right

A simple test will prove to you that AGEPROOF VELLUM combines the perfect drawing surface with perfect reproduction. You can repeatedly erase on AGEPROOF VELLUM without troublesome ghosts in prints, and redraw without feathered lines if you are using ink. You can put AGEPROOF into the files, or into active use for year after year, and your tracings will never turn yellow, become brittle, or lose their super-transparency.

AGEPROOF is a fully plasticized sheet, with the transparentizing agent permeating every fibre. AGEPROOF contains no wax, oil or grease to deteriorate. Test AGEPROOF VELLUM with a hard pencil. Hard pencil drawings on AGEPROOF print sharp and clear, avoid the mess of soft pencil smudging.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco
New Orleans • Los Angeles • Pittsburgh • Washington
Philadelphia • Milwaukee. *Dealers in All Principal Cities.*

FREE SAMPLES

Test AGEPROOF VELLUM! Draw on it with pen and pencil, erase, redraw, make test prints. Write on your company letterhead for samples, sent free.

DIETZGEN
DRAFTING, SURVEYING & PRINT-MAKING MATERIALS, INSTRUMENTS & EQUIPMENT

▼ BRIEFITS—Identify by IEN-7625 if you write the maker ▼

COOLING . . Fan equipped radiator for jacket water, oil, process fluids

Source: TRANE CO.
2017 Cameron Ave., La Crosse, Wis.

A heat exchanger is multiple assembly to handle one or more cooling circuits simultaneously and a fan-driven fan with mounting in a structural frame make up a new line of heat exchangers for cooling service on engines, compressors, trans-formers, process equipment, involving the use of oil, water or special fluids. One exchanger can be connected to supply a part of its area for one fluid and the balance for a second or third or all can be set as a single unit for cooling. Dry Type Fluid Cooler is the designation.

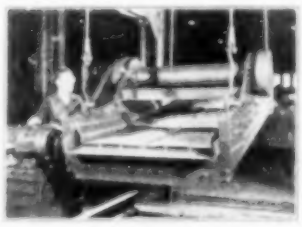
The line includes two designs, in which the assembly is vertical, as shown in the illustration, or horizontal with the fan delivering upward from below the horizontal heat exchanger. Ratings are 60,250 to 2,020,000 btu. per hour. The smallest unit mounts an 18-in. fan driven by a 1-hp. motor to handle 2,280 cfm. of cooling air and a fluid flow of 20 gpm. based on water. The largest has a 144-in. fan, a 30-hp. motor. It will handle 250,000 cfm. of air and 1,000 gpm. of water.

Bulletin, "Fluid Coolers Dry Type," No. DS-205, 20 pages, presents illustrated description, performance curves, instructions for selecting, coupling in details and specifications.

▼ BRIEFITS—Identify by IEN-7626 if you write the maker ▼

SCREENING . . Vibrating equipment particularly for coal or limestone

Source: ALLIS-CHALMERS MFG. CO.
909 S. 70th St., Milwaukee 14, Wis.



The single deck of this recent addition to the company's line of Rip-Flo screens is divided into three sections, each with a slope of 5 deg. less than the preceding one. This arrangement provides for high feed rate on the entering end and reduced rate as the material moves toward discharge. The screen is equipped also with rubber balls located between the screen surface and a retaining deck several inches below the screen. The balls jar small damp particles loose to keep the screen surfaces clean when wet material is being handled.

Single deck assemblies are available in screen sizes from 5 to 6 ft. to 6 ft. to 16 feet. Vibration is imparted to a Dodecentric balanced eccentric shaft that provides a ¼ to ⅞-in. throw. A smooth circular motion is imparted to all points on the screen surface by the drive mechanism.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

▼ BRIEFITS—Identify by IEN-7627 if you write the maker ▼

The Chair that has Everything!

Clarin STEEL FOLDING CHAIRS

Extra COMFORT
Wide, roomy seat and contour lifting back assure restful, relaxing seating.

Extra STRENGTH
Clarin chairs are strongly reinforced at all vital points—never buckle or sag.

Extra WEAR
Good for years and years. You just can't wear them out.

Extra QUALITY
Finished in attractive hard-baked enamels — rich-looking, durable upholsteries — choice of colors.

Extra QUIET
Open and close noiselessly at slight pressure.

Extra COMPACT
Fold to 2 inches thin.

WRITE
CLARIN MFG. CO. 6560 W. Harrison St., Dept. I-E CHICAGO 44, ILL.

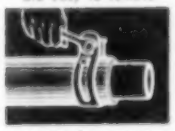
Clarins are more Clarin steel folding chairs in institutional service than any other make

▼ BRIEFITS—Identify by IEN-7628 if you write the maker ▼

UNIVERSAL ENGINEERING CO.
FRANKENMUTH 6, MICHIGAN

▼ BRIEFITS—Identify by IEN-7629 if you write the maker ▼

Clancy steel clamps won't rust on . . . are easy to remove.



Merely loosen nut and bolt and remove.

Replace and tighten. Perfect circle assures uniform fit.

CLANCY SURE-GRIP HOSE CLAMPS

Can be Reused

. . . can be removed and replaced time after time without injury to the hose, clamp, nut or bolt.

Clancy Sure-Grip Clamps keep their shape, hold any pressure the hose will stand. All parts separately galvanized — no rough edges, won't rust or stretch. For air, gas, water or steam. Every size to fit any hose — foreign or domestic. Write for prices.

J. R. CLANCY INC.
1008 W. Belden Ave.
SYRACUSE 4, N. Y.

▼ BRIEFITS—Identify by IEN-7630 if you write the maker ▼

get it there FASTER

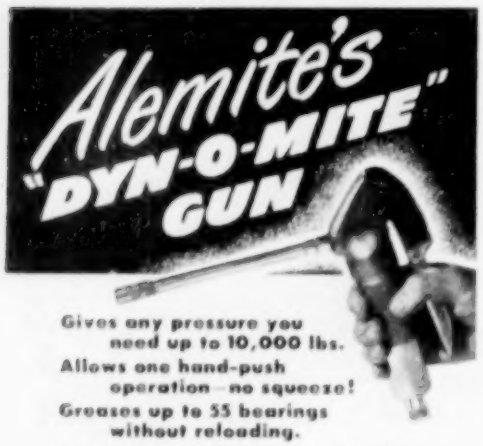
get it there BETTER

get it there CHEAPER

with TRUSCON STEEL BOXES and SKIDS

TRUSCON STEEL COMPANY
PRESSED STEEL DIVISION
4206 TRUSCON AVENUE, N. E. CLEVELAND 8, OHIO

DIRECT—Identify by IEN-7631 if you write the maker



Gives any pressure you need up to 10,000 lbs.
Allows one hand-push operation—no squeeze!
Greases up to 55 bearings without reloading.

● This modern, lightweight "Dyn-O-Mite" Gun permits fast, easy greasing of even the tightest bearings. Lets operator work anywhere with one hand free. Out-of-the-way overhead bearings are greased easily—quickly—safely—with whatever pressure needed!

WRITE NOW for free catalog. Address requests to Alemite, Dept. K-80, 1850 Diversey Parkway, Chicago 14, Illinois.

ALEMITE
Industrial Lubrication Equipment

DIRECT—Identify by IEN-7632 if you write the maker

For more profitable END MILLING

. . . choose the right end mill from the extensive Brown & Sharpe line. By matching the end mill to your needs, you'll get faster, more efficient, and more profitable cutting.

Brown & Sharpe offers 20 styles of end mills with a complete range of sizes in each. Send for the catalog containing specifications and prices. Brown & Sharpe Mfg. Co., Providence 1, R. I., U. S. A.

We urge buying through the Distributor

BROWN & SHARPE BS

DIRECT—Identify by IEN-7633 if you write the maker

Know the scope of the MARSH line of pressure gauges

There are literally thousands of combinations of types, ranges, case styles and connections in the Broad Marsh line of pressure, vacuum and compound gauges. As a result, gauge requirements that would be "special" in others are often standard in Marsh.

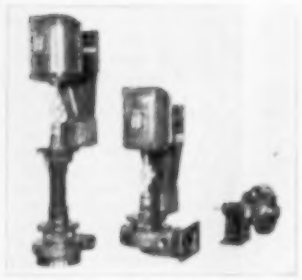
This means that we can meet your gauge needs better and more economically . . . whatever the service conditions, quantity or design requirements. To know the scope of Marsh instruments just ask for the new fact-filled catalog.

MARSH INSTRUMENT CO.
Sales offices of Jas. P. Marsh Corp., Dept. A, Skokie, Ill.
Export Dept.: 135 E. 44th St., New York 17, N. Y.

DIRECT—Identify by IEN-7634 if you write the maker

PUMP . . Centrifugal design for coolants to 50 lb. and 150 gpm.

Source: PIONEER PUMP & MFG. CO.
19677-81 John R St., Detroit 3, Mich.



Three designs are included in a new line of coolant pumps to which to provide for motor mounting to take any NEMA motor in conformance with the new Joint Industry Conference standards. The third unit is equipped with a shaft extension and mounting bracket for general-purpose application in horizontal or vertical position.

One of the two motor-driven pumps assemblies is a resilant tank for support at the bottom of the tank. The other has a flange for outside tank wall mounting. The bracket design provides the required flexibility in assembly to take various motors rating ¼ to 5 hp over the complete capacity range.

DIRECT—Identify by IEN-7635 if you write the maker

DRYING . . Infra-red elements dry enamel on small gasoline engine

Source: EDWIN L. WIEGAND CO.
7505 Thomas Blvd., Pittsburgh 8, Pa.

New tunnel assembly of the company's radiant and electric elements forms a part of an overhead conveyor line in application to an engine-builder's plant. The elements dry paints applied on the completed engines as they move along the conveyor track. A total of 21 heat emitters rated at 500 watts and 1,500 watts each make up the cylindrical oven.

Spacer sheets between the emitters are made of Alclad aluminum, the same as the element reflectors. These sheets fit into grooves in the element housings which is designed as previously described IEN 8804-48. Clearance inside the oven is 20 inches. Work movement is at 30½ fpm through the drying tunnel.

DIRECT—Identify by IEN-7636 if you write the maker

LIGHTING . . Industrial fixture standards booklet specifies 18 fluorescent and incandescent units

IES Standards Institute
124-28 W. Madison St., Chicago 6, Ill.

Four new specifications for T-12 Slimline fluorescent-lamp fixtures are included in revised 44-page Specifications Booklet. These and 14 other fluorescent and incandescent units are described as to materials, shielding angle, dimensions, contour, efficiency, acceptance criterion, code requirements.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 16

DIRECT—Identify by IEN-7637 if you write the maker

YES! You Can Cut Your Material Handling Costs IN HALF . . .

If You Answer "NO" to Over 4 of These Questions!

Many companies have discovered that material handling from receiving through production and shipping has added excessive "HIDDEN COSTS" to the cost of their product . . . If you answer "NO" to more than 4 of these 8 simple questions, mail coupon for money saving facts. There's no obligation.

1. Do you know how many of your workers are occupied in manual lifting, moving and stacking of materials?
2. Have you discovered skilled workers were waiting time, back-tracking, carrying?
3. Do you know your approximate cost per unit of your product and equivalent manual handling cost?
4. Do you know how fill and move from machine with any finger by operating push button, as in use with Automatic Electric Trucks?
5. Do manual costs, not only spring from, but create more expensive working conditions?
6. Do you know how many times it takes you to move your product from raw material to your plant daily?
7. Have you done anything to improve your skilled workers' height and reach of your current to back-breaking lifting, hitching and hand truck carrying of material through your plant?
8. Do you know how much hand handling of material is costing you in time and product damage, equivalent to your low wage workers, and is production increasing?

FREE BOOKLET! "How to Make Your Material Handling Pay Dividends." Gives authentic case histories and pictures of money saved on daily operations of Automatic Electric Trucks. Write now!

Automatic Mfg.
129 West 67th Street, Dept. M-5,
Chicago 20, Illinois

Automatic
ELECTRIC TRUCKS
Lift the Load

DIRECT—Identify by IEN-7638 if you write the maker

Gear Unit Made Better . . . but Cheaper with AMGEARS know-how

Wanted: constant mesh 3-speed divider and multiplier transmission for 28 hp.

Supplied: Exceptionally compact unit with 2000 rpm. input, 3150 rpm. overdrive and 1000 rpm. underdrive output. Yet, no bronze bearings needed on A and B!

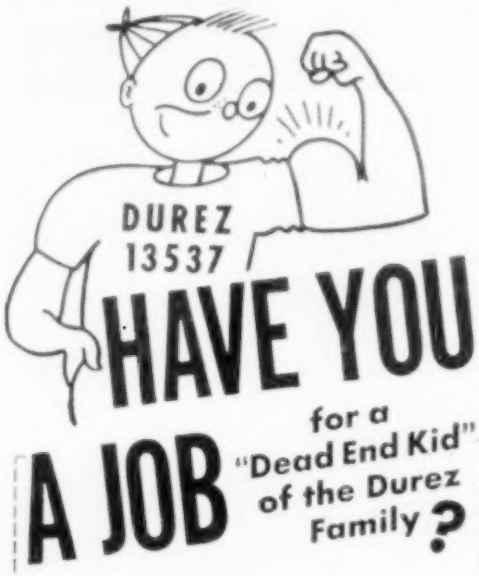
WHY? Amgears designed the output shaft and gears A and B to rotate in same direction. Result, a relatively small difference in velocity between shaft and gear bores, with no load when velocity differences occur.

Save on your gear units—improve your products . . . with AMGEARS design help as well as unparalleled gear manufacturing facilities. Write for interesting CASE HISTORIES.

Production and precision spurs, sprockets, helicals, worms and wormgears; straight and spiral bevel gears and racks.

AMGEARS, Inc.
4633 West 63rd Street
Chicago 38, Illinois
A SUBSIDIARY OF HUFF CORPORATION
CONTRACT MANUFACTURERS
Detroit • Cleveland • Chicago

DIRECT—Identify by IEN-7639 if you write the maker



HAVE YOU A JOB for a "Dead End Kid" of the Durez Family?

● Here's a molding compound that won't cry "Uncle" in a tough, hard-service situation. In Durez 13537 we have developed a fabric-filled phenolic that stands up to the mechanical abuse meted out to textile industry parts such as bobbins and spools, and to heavy-duty industrial moldings in general.

IMPACT STRENGTH of this material is 1.4 F. P. per inch — five times as great as general-purpose phenolics. Yet it has excellent balance of other mechanical properties including very good electrical characteristics. Naturally it requires higher molding pressures than materials with less impact strength.

SUPPLIED IN MACERATED FORM, Durez 13537 has good storage life. Its flow properties are also good, and it can be successfully used for plunger molding.

SEND FOR DATA—Specification sheets with full details will be sent promptly on request. . . . Durez Plastics & Chemicals, Inc., 176 Walck Road, North Tonawanda, New York.

DUREZ
Phenolic Plastics that fit the job

PHENOLIC RESINS
- MOLDING COMPOUNDS
- INDUSTRIAL RESINS
- PROTECTIVE COATING RESINS

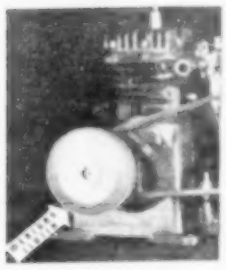
▼ SPECIFY—Identify by IEN-7641 if you write the maker ▼

PUT A MERCURY CLUTCH ON THE JOB

It Solves the Starting Problems of Gasoline Engines and Electric Motors

Couple an electric motor or a gasoline engine with a Mercury Automatic Clutch and it is off to a good start in life. Well you need, for, against some of the pitfalls in the life of a motor or engine . . . such as overloading, low voltage, external disturbances that often result in burned out windings, blown fuses, stalled engines.

Its only product is machine power produced by electricity or gasoline. A Mercury Automatic Clutch usually adds a substantial sales value. Prospective buyers know about Mercury Automatic Clutches and appreciate this plus value in your product. Find out how little a Mercury Automatic Clutch will add to the cost of your product and how much it will add to the selling value. Write for Bulletin 2151.



Mercury Clutch Division

AUTOMATIC STEEL PRODUCTS INC. CANTON 6 · OHIO

▼ SPECIFY—Identify by IEN-7642 if you write the maker ▼

WECO DROP-SIDE SNATCH BLOCKS

RUGGED — TOUGH EASY TO HANDLE

Forged steel hook and sheave . . . induction hardened extra heavy sheave pin . . . 3/8" steel plate sides . . . self-lubricated "Super Oilite" bearing give WECO SNATCH BLOCKS strength for heavy hoisting, and durability for long life.

The patented "Drop Side" makes it easy to string and unstring the block. Instead of the usual "needle threading" procedure just remove the wing nut, raise side, insert line, drop the side, and replace the nut.

Specify WECO SNATCH BLOCKS for greatest service and longest life. Write for bulletin.

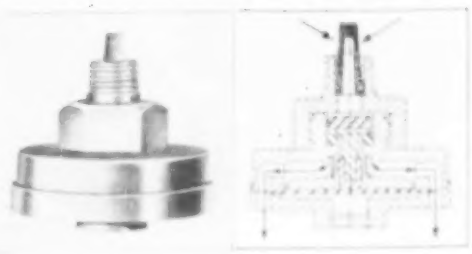
WELL EQUIPMENT MFG. CORP.
Subsidiary of Chicago Company
HOUSTON 1, TEXAS
Exclusive Sales Representative Outside Mid-Continent Area
CHICAGO COMPANY
New Delhi · New York 7
Export Sales CHICAGO EXPORT COMPANY New Delhi · New York 7

WECO
Manufacturers and Distributors of Oilfield, Refining, Marine and Industrial Equipment

▼ SPECIFY—Identify by IEN-7644 if you write the maker ▼

VALVE . . Diaphragm operated, drains water, oil from compressor tank

Source: MASTER EQUIPMENT SALES
P. O. Box 55-B, Dayton 1, Ohio



Drain Master trade-name valve that has been sold ready for a trial period now is available exclusively to automotive repair establishments where and so from the mechanic type to a stationary or mobile compressor installation. Two types, Model A for motor reduction and Model B for stationary or mobile compressors, are available. Both measure about 2 in. in height and weigh about 3½ ounces. List price is $12.50.

Application is in the location of the interior to mounting the ½ in. pipe-threaded top of the aluminum housing into place in a tank fitting. All pressure in the tank then passes through the pressure-metal filter at the top to fill the space above the diaphragm supported with a stainless steel valve in the center. The head of this valve carries Hycar the base cup and bottom for double-seating action. It stands open at the top but closed on the bottom face as long as there is no pressure under the diaphragm to hold it closed in "up" position. Thus the valve is closed when pressure is released under the diaphragm and also when it is applied there. It will be open to allow water and oil only during actual travel between the two seating faces.

Actuating connection is made at the ½ in. central pipe port to the chamber below the diaphragm to connect this chamber to the compressor unloader or to a point between an operating valve and an air using appliance. This connection results in change in pressure each time the unloader or valve opens or closes. In each case the drain valve will be moved in one direction or the other to provide a momentary open position for ejection of the accumulated moisture and oil through ports in the bottom of its housing.

▼ SPECIFY—Identify by IEN-7645 if you write the maker ▼

RECORDING . . Portable register holds 100 three-part business forms

Source: UARCO CO.
139-43 W. Jackson Blvd., Chicago 4, Ill.

New register has been designed to take 100 sets from twelve forms. It measures 8 by 12 in. by 3½ in. weighs 2½ pounds. It is designed for one-at-time use. Books, after beginning, and at a particular unit, to be carried through operations, stockrooms, or loading pier. Forms are in place.

A clip tray is held in an hold carbon copies. The bodies of aluminum and the operating parts are steel. The oil is semi-gloss steel. The housing is finished in wrinkled gray enamel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10

▼ SPECIFY—Identify by IEN-7647 if you write the maker ▼

Ask the Man with Holes in His Head!

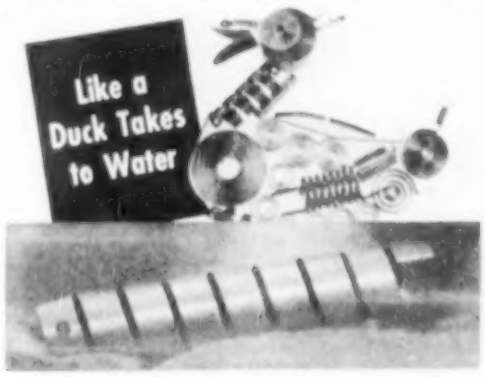
. . . to cut your boring costs

What'll it get you to ask about boring? Just this — lower costs. Lower costs through savings in time and money. Because "the man with holes in their heads" provides newer, lower cost methods of boring. You may need special bars and special cutters. If so, they'll be designed for you. More likely the right standard Madison cutter in the right Madison bar can give you full production economy — and the Madison line of boring tools is broad enough to fit nearly any boring problem. Why not let Madison — experienced specialists in boring and boring tools — cut your boring costs? Ask us. A brief letter will do it. No obligation of course. *Write for the information filled Madison Catalog.*

BETTER BORING TOOLS . . . MORE BORING EXPERIENCE

MADISON MANUFACTURING COMPANY
Dept. IN — Muskegon, Michigan

▼ SPECIFY—Identify by IEN-7648 if you write the maker ▼



Truflex J7 THERMOSTAT METAL Resists Water Corrosion

General Plate Truflex J7 Thermostat metal takes to water like a duck. For instance, the unit shown above has operated in a hot water tank over 8 years, but not a single spot or local discoloration appeared.

In addition to the application above, Truflex J7 Thermostat metal is operating successfully without corrosion in such applications as water mixing valves (shower mixing valves), hot water temperature measuring valves, sensing applications which often require operation in mild acids, radiator valves, etc.

General Plate Truflex Thermostat metals are available as a complete line of combinations to meet all specifications, in temperature range, electrical resistance, size, shape and color. Write for information.

Other Industrial Plate Products include—Precious or base metal laminates — Base metal laminates — Alcoplat (copper and aluminum) silver solder — Laminated contacts, bimetal, rivets — Platinum, Iridium, Rhodium — Age hardening Manganese Alloy 710.

GENERAL PLATE
Division of Metals & Controls Corporation
708 FOREST STREET, ATTLEBORO, MASS.

▼ SPECIFY—Identify by IEN-7643 if you write the maker ▼

Look for this name plate on dependable air systems

ROSS Air Systems

Symbol *of the best in modern Air Processing Equipment*

Air Heaters—Direct, indirect, all fuels . . . Industrial Dryers, batch, continuous, for web or particle drying . . . Industrial Ovens, batch, conveyor, for temperatures to 1000 deg. F. . . . Heating, Ventilating, Air Conditioning . . . Waste Heat Recovery.

Literature on request. Mention equipment of interest.

J. O. ROSS ENGINEERING CORPORATION
MANUFACTURERS OF AIR PROCESSING SYSTEMS
444 MADISON AVENUE — NEW YORK 22, N. Y.
CHICAGO · DETROIT · BOSTON · LOS ANGELES · MONTREAL · LONDON

▼ SPECIFY—Identify by IEN-7646 if you write the maker ▼

MELRATH GASKETS

DRUM PLUG GASKETS

Made from any desired material or combination of materials. Resilient — tightened with little torque — remain tight under all temperature changes. For gasoline, kerosene, benzol, alcohol, fuel oil, lubricating oil, paraffine, paint, lacquer, dye, chemicals, etc.

There's a Melrath Gasket for Every Purpose!

MELRATH SUPPLY & GASKET CO., INC.
3501 MEMPHIS ST., PHILADELPHIA 34, PA.

▼ SPECIFY—Identify by IEN-7649 if you write the maker ▼

Save Mounting Time WITH EASY-TO-ALIGN "MAGIC-GRIP" Sheaves

YOU CAN MOUNT a "Magic-Grip" sheave faster than any other sheave you can buy . . . and dismount it just as fast. To mount . . . simply slide sheave on shaft and tighten three screws. To dismount . . . use screws to break the tapered bushing grip. Sheave slides off easily.

No damaged bearings from forcing and hammering. A hex socket wrench is the only tool needed. And engine can line up the sheave perfectly. Sizes 1 to 250 hp.

For complete facts and figures on how "Magic-Grip" sheaves can save you money call your A-C Authorized Dealer or Sales office or write for Bulletin 20B0051. A-2101

Magic-Grip is an Allis-Chalmers trademark

ALLIS-CHALMERS, 909A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

IEN-7650

Here's How STURTEVANT Air Separators Increase Production of Fines ...Lower Production Costs

Sturtevant Air Separators effect production savings by increasing output by 25 to 300%, . . . reducing power consumption by as much as 50%.

They efficiently carry off all classified materials to any desired fineness from 30 to 325 mesh and finer . . . eliminate the need of screening in certain applications. Capacities available from ¼ to 50 tons per hr. *Write for full details, today.*

Sturtevant Mill Company
113 Clayton Street, Boston 22, Mass.

IEN-7651

Here's an *Air Cylinder* operated valve you can really depend on!

HILLS-McCANNA DIAPHRAGM VALVES WITH AIR OPERATORS

The combination of the proved Hills-McCanna Saunders Patent valve principle with modern, dependable air cylinder operators opens up a whole new field for remote valve operation. Models are available for open and close service, and throttling and may also be equipped for positioning service. The unique construction of the valves makes them ideal for handling an almost unlimited variety of acids, alkalies, slurries, air, water, gases or volatile or viscous substances. Write for complete details. HILLS-McCANNA CO. 2347 West Nelson Street, Chicago 18, Illinois

Check THESE FEATURES

HILLS-McCANNA *Diaphragm Valves*
Remote operation with air and water cylinders, diaphragm motors or gear motors by manual or automatic control.

IEN-7652

TAKE YOUR PICK

from the most complete line of drop-forged wire rope and chain fittings

Whether you want the famous Laughlin "Fist-Grip" Safety Clips . . . the Laughlin Safety Hook with the "Safety Bail Locks On Load" . . . or any other wire rope or chain fitting, you can get what you want from Laughlin. Your Laughlin distributor will be glad to see that your order is promptly filled.

SEND FOR FREE BOOK

If you do not have a copy of the Laughlin Catalog No. 18a send for it now. Being issued as industry's bible here, it is 96 page catalog in pocket size, and includes information that can be valuable to you. Write now for your free copy.

THE THOMAS LAUGHLIN COMPANY Dept. 77, Portland 9, Maine

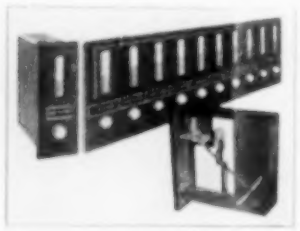
LAUGHLIN

THE MOST COMPLETE LINE OF DROP FORGED WIRE ROPE AND CHAIN FITTINGS

IEN-7653

GAGE . . Transmitter operated. reads liquid level, signals extremes

Source: PANALARM PRODUCTS INC. 7214-18 N. Clark St., Chicago 26, Ill.



New gage, bellows powered, is designed for connection to a remotely located pneumatic transmitter at a point where liquid level is to be checked. The bellows pulses and lowers a flag showing a shadow indication on the illuminated transmitter scale in the housing face. The assembly is available to specification with magnetically operated mercury switches at the high or low extremes, or both, to close a signal circuit. This lights a signal lamp and sounds an alarm horn. The horn can be acknowledged and shut off by pressing a button. The lamp remains lit until the abnormal condition has been corrected to suitable setting.

Air pressure range for operation is 3 to 15 pounds. Electrical connection is to a 110-volt power source. The gage is mounted in a panel cutout measuring 6¾ in. in height and from 5⅝ to 20¾ in. for 1 to 4 units. Front to back is about 8¾ inches. Panalarm Model 230-W-101 is the designation.

IEN-7654

TRUCK . . Self-dumping trailer mounts 3 cubic yard rocking hopper

Source: PHILLIPS MINE & MILL SUPPLY CO. 2300 Jane St., Pittsburgh 3, Pa.

Super Phil Dump Model DF-3H is a dump cart with a steel hopper that will rock to dumping position to discharge a load when it is properly loaded and will return and lock in carrying position when empty. The assembly measures 98 in. in overall length by 63 in. in closed height. Inside hopper width is 58 inches. Mounting is on four pneumatic tired wheels. The rock that locks the hopper against accidental dumping is new design by the company. A jack stand is provided to hold the frame level when unloaded.

IEN-7655

MANAGEMENT . . Training film directory on personal relations and supervisory practice

Film Research Associates 165 W. 23rd St., 3rd Fl., New York 19, N. Y.

Motion pictures, slide films and recordings are reviewed in new Business Service Staff Bulletin 12. Set price $1.50. It lists details on 141 sound and special purpose audio-visual training aids. Film entries showing time and source for rental or sale are given for each.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10

IEN-7656

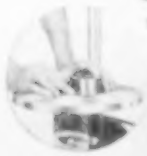
TRIPLE PURPOSE MACHINE
FILES...SAWS...STONES

ILLINOIS DIE FILING MACHINE

An accurate, smoothly-operating machine that files, saws and stones the most intricate die shapes . . . eliminates tedious hand operations . . . reduces costs. It is quality-built for long, trouble-free service . . . hardened and ground shafts running in bronze bushings minimize wear. The holding chuck and clamping device provide perfect file alignment.

Sawing

Write for descriptive literature



Stoning

ILLINOIS TOOL WORKS
2501 N. Keeler Ave. • Chicago 39, Ill.
MANUFACTURERS OF METAL CUTTING TOOLS AND SHAKEPROOF PRODUCTS

IEN-7657

UPTEGRAFF DISTRIBUTION TRANSFORMERS

Dry types or Liquid immersed

1½ to 500 KVA · Prompt Delivery

Uptegraff makes a complete line of transformers for industrial and utility service. Types include Distribution, Power, Instrument, Specialty. Sizes up to 10,000 KVA.

R. E. UPTEGRAFF MANUFACTURING CO.
THOMAS STREET . . . . SCOTTDALE, PENNSYLVANIA
Makers of Power · Distribution · Instrument · Specialty Transformers

---

IEN-7658

UNITED Electric Controls Company

TYPE W THERMOSTAT

Provides Automatic Control For Ovens, Hot Plates or Liquid Baths

The Type W Thermostat is an adjustable short-range control developed to automatically maintain critical temperatures within close limits. It is especially suited for controlling ovens, incubators, liquid baths, hot plate glasses, cold cabinets, as well as food and drink vending machines.

The Type W thermostat is a remote bulb-type engineering a highly sensitive, totally liquid-filled bulb and hydraulically formed brass bellows to actuate a positive snap action switch. It can be furnished calibrated for any range, depending on the thermal assembly used, between the limits of 25° F. to 400° F. and with fixed, uniform differentials to suit the application. Electric ratings are the standard model are 10 amp 125 V AC and 5 amp 250 V AC. Special models up to 25 amp 125 V AC are available. Write for bulletin containing full details.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street, Watertown, Mass.

Standard & Special Thermostats & Pressure Switches

IEN-7659

MET-L-WOOD METAL BONDED TO PLYWOOD

Has Hundreds of Structural Uses in Modern Plants

To Name a Few:

- Walls and Partitions
- Doors
- Counters and Shelves
- Traffic Panels
- Truck Bodies (Patented Welded Construction)
- Trays & Body Panels
- X-Ray Rooms
- Moisture Vapor-Proof Rooms and Containers
- Decorative Finishes

Met-L-Wood is metal bonded to plywood permanently. Many metals, woods, thicknesses, finishes are available to meet YOUR requirements.

Met-L-Wood stock panels and prefabricated units are a challenge to modern industrial engineers and designers because of their multiple possibilities in economical, structurally sound designs in hundreds of varied uses. But with growth changing to circles of Met-L-Wood design opportunities to be used for the Bulletin described below . . . Met-L-Wood Engineering Service is available without obligation on specific problems.

SEND FOR THIS BULLETIN ON MET-L-WOOD USES AND ADVANTAGES

Quick facts, with illustrations and diagrams on Met-L-Wood applications, properties, finishes, how welded, fabrication on request.

MET-L-WOOD CORPORATION
6755 West 65th Street • Chicago 38, Illinois
"Met-L-Wood . . speaking new features in structural designs"

IEN-7660

AUTOMATIC HUMIDITY CONTROL

The Bahnson HUMIDIFIER

combines in one unit the four basic requirements of industrial humidification that have proven especially successful.

1. Atomizes water into a fine mist
2. Diffuses the mist with some air into completely atomized
3. Distributes (washing humidified air) uniform throughout room
4. Automatically controls the evaporation to maintain a constant relative humidity

High Capacity TYPE L Master Control

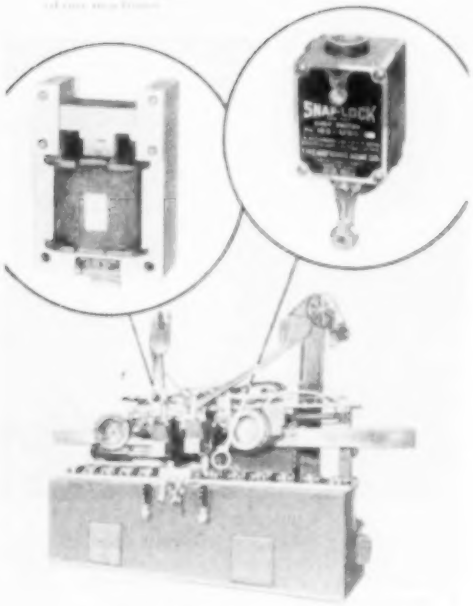
COMPLETE ENGINEERING AND SERVICE DEPARTMENT FOR CONSULTATION

Bahnson System
AIR CONDITIONING ENGINEERS
THE BAHNSON CO. WINSTON-SALEM, N. C.

IEN-7661

WHERE THE GOING IS HOT AND HEAVY

On these specialized automatic welding machines, the Cecil C. Peck Company, Cleveland, has standardized on Namco "Stellite" Welded Solenoids and Snap-Lock Limit Switches. In their own words, here's why: "These units have added considerably to the efficiency and performance of our machines."



SPECIFY NAMCO

FOR SNAP-LOCK LIMIT SWITCHES

You'll get precision performance and dependable trouble-free service under even the most extreme conditions of heavy-duty operation. "Snap-Lock" Limit Switches are built in a variety of types and sizes, but each is distinguished by the same exclusive Namco features: "SNAP" make and break, pure silver self-wiping contacts, positive "O" or off locking, separately sealed electrical and mechanical units, functional steel moving parts and forged levers.

For complete information on standard Snap-Lock Limit Switches, ask for Bulletin LM-1.

FOR "STELLITE"-WELDED SOLENOIDS

Wherever continuous duty or a pull of up to 25 pounds, Namco Solenoids will do the job quickly, accurately, dependably, and with minimum current consumption. Equally important to designers, they're compact, they're simple, they're built for heavy-duty service — and they're available in a wide range of frame sizes, with voltages to fit your requirements. This engineering aid is yours for the asking. Write for Bulletin LM-10.

The company standard frame of Namco "Stellite" Welded Solenoids is Bulletin LM-10.

ELECTRICAL MANUFACTURING DIVISION

THE NATIONAL ACME CO.
CLEVELAND, OHIO

IEN-7663

HOSE FITTING . . Hydraulic coupling rates 1,500 lb., seals on disconnecting

Source: ULRICH MFG. CO.
500 Jefferson St., Roanoke, Ill.

New design of the company's Unit hose coupling adds an operating feature and clamp to the sliding sleeve by which the connection can be released. The finger at arrow is a bracket so equipped that one hook away as the movement permits the sleeve behind. The hose line is disengaging, the hoses.

Retracting the sleeve releases the connection parts which disconnection are sealed by internal valves against loss of pressure on "off" the systems. Field Bringing the parts together again, sliding them a little distance and releasing the sleeve to holding position secures the connection.

Four sizes are ⅜, ½, 1 in. Outside diameter in Fig. 1 in. are the ⅜ and ½ in. sizes. It is 4½ in. in length. The larger ⅝ and 1 in. connection measure 2¼ in. in 4 inches.

IEN-7664

SIGNALING . . Bulletin board mounts cork area in hardwood frame

Source: INDUSTRIAL PRODUCTS CO.
2801 N. 4th St., Philadelphia 33, Pa.

Thumb tacks apply easily in the cork

Overall size of the company's new Cork Board bulletin board is 24 by 40 inches. Across the top is the legend Bulletin. The frames of the board provide a strip of cork measuring 23 by 39 inches. The signed can be arranged to provide a cork area of 22 by 38 in. The cork is one inch. The satin finish frame is 1½ inches wide.

IEN-7665

BENDING . . Hydraulic machine rates to 2 in. pipe or equivalent

Source: HOSSFELD MFG. CO.
458-62 W. 6th St., Winona, Minn.

New design of the company's No. 2 hand-operated bend machine and 3 charge a motor driven hydraulic pump, foot control valve, flexible hose and a spring return single acting hydraulic cylinder for power operation. The hydraulic equipment can be supplied as a part of a new assembly or it can be designed for field application on the company's hand operated machines now in service. The machine will bend 1 in. standard pipe or a 2 by 2 by ⅜ in. angle and equivalent stock. Mounting is on a bench or pedestal.

All Makes of Firms And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 30

IEN-7666

tangle-proof power line for moving machinery

APPLETON REELITE

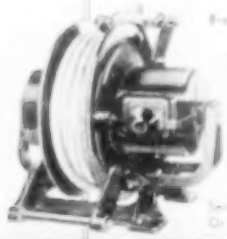
CONSTANT DUTY

You can cut cable costs, speed work and prevent delays and accidents when power for your mobile electrical machines is supplied through Appleton Constant Duty Reelites. These ruggedly built Reels automatically take up and pay out conductor cable—hold cable gently taut, preventing breaks, kinks, tangles.

APPLETON ELECTRIC COMPANY
1701 Wellington Ave. • Chicago 13, Ill.

Branches and Resident Representatives in all Principal Markets

Sold Through Electrical Wholesalers



Send for Bulletin No. 304
Or see Sweet's file, page 2e/App

APPLETON
CONDUIT FITTINGS • LIGHTING EQUIPMENT • OUTLET AND SWITCH BOXES
EXPLOSION PROOF FITTINGS • REELITES

IEN-7667

PUNCTURE TESTER

for quality-control in box construction

The G-E puncture tester determines the resistance of boxes to puncture by other boxes, the most frequent cause of box damage.

Operation is based on tests of the American Society for Testing Materials and the Technical Association of the Pulp and Paper Industry.

Write for bulletin GEA-4168A. Apparatus Department, General Electric Company, Schenectady, New York.

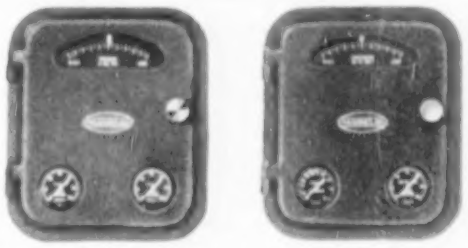
GENERAL ELECTRIC

IEN-7668

Two Masoneilan Controllers

That Provide Precise Control at Moderate Cost

IN A MAJORITY OF PRESSURE APPLICATIONS
IN MANY TEMPERATURE APPLICATIONS



No. 2700 Pressure Controller — No. 3700 Temperature Controller

NOTE THESE MASON-NEILAN FEATURES

1. Same basic control mechanisms for pressure and temperature control means more simplicity, permit standardization of parts.
2. Pneumatic feedback — usually found only in most expensive pneumatic controllers — precise response.
3. Control panel setting mechanism provides extreme accuracy of adjustment and easily read expanded index scale.
4. Proportional band adjustment between 1 and 100.
5. Contact and stable — sea and natural mechanisms all important internal parts of bronze, brass or 18-8 stainless steel.
6. Control action is reversible with either branches as follows.

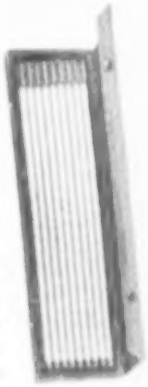
Masoneilan models 2700 pressure and 3700 temperature controllers are ideal for many industrial applications requirements. They are moderate in cost — provide excellent performance, precise proportional response and ease of adjustment.

MASON-NEILAN REGULATOR CO.
1188 ADAMS STREET, BOSTON 24, MASS., U.S.A.

IEN-7669

For Topflight Temperature Testing

CHOOSE FROM THIS NEW MATCHED SET



From the MR. TMolidine Mercury set of A.S.T.M. Certified Fitzone Precision Thermometers you can choose the one best suited to the test you are running. Nine matched thermometers cover a range from [illegible] to [illegible] C in from [illegible] to [illegible] F. Read to a fraction of a degree. Conform to A.S.T.M. standards of accuracy. Each thermometer supplied with individual calibration certificate for field comparison. Packed in protective plastic lined case, with stopped cork from stock.

Write for full details!

TAG

WESTON ELECTRICAL INSTRUMENT CORPORATION
Manufacturers of TAG Gauges and Weston Instruments
638 Frelinghuysen Avenue, Newark 5, N. J.

▼ REPRINT—Identify by IEN - 7670 if you write the maker ▼

KIRK-BLUM ECONOMY ADJUSTABLE HOODS for buffing and polishing wheels

Reduce power needs

Provide more effective operation of dust control system

Power consumption is reduced and suction is more effectively utilized with Kirk & Blum Economy Adjustable Hoods. Scientific design guides wheel-propelled dust particles directly into suction pipe. The Economy Hood is easily adjusted, permitting use on wheels of various diameters and work of any size. Hollow base acts as trap to catch small pieces of work. Quantity production of this hood results in low cost to you.

42 years of experience assure efficient dust control with Kirk & Blum installations. Write for Bulletin 2949.

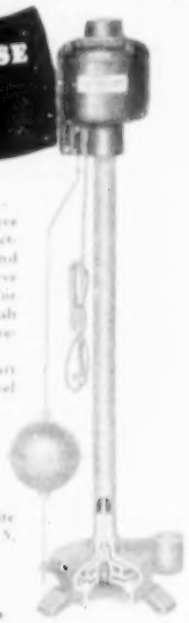
FOR CLEAN AIR . . . THE TOOL

The Kirk & Blum Manufacturing Co.

KIRK-BLUM DUST CONTROL

▼ REPRINT—Identify by IEN - 7671 if you write the maker ▼

FAIRBANKS-MORSE INDUSTRIAL SUMP PUMPS



Handy, dependable. Save thousands of dollars by protecting machinery, merchandise and buildings from damage by excessive seepage and flash floods. Ideal for use in boiler and elevator pits, ash dumps, machinery base pits, storerooms, and many other places.

Fairbanks-Morse sump pumps start when water reaches pumping level—shut off when danger is passed. Can be left unattended. Made for 2-foot sump pits. Extension columns available when settings require them. For complete details of sizes, construction features, pumping capacities and prices, write Fairbanks, Morse & Co., Chicago 5, Illinois.

FAIRBANKS-MORSE,

a name worth remembering

DIESEL LOCOMOTIVES AND ENGINES · ELECTRICAL MACHINERY · PUMPS · SCALES
HOME WATER SERVICE AND HEATING EQUIPMENT · RAIL CARS · FARM MACHINERY

▼ REPRINT—Identify by IEN - 7672 if you write the maker ▼

MORE HOURS IN YOUR CLOCK!

Own Your Own KELLOGG SELECT-O-PHONE

Automatic Private Telephone and Paging System

MAIL COUPON TODAY!

SELECT-O-PHONE DIVISION
Kellogg Switchboard & Supply Co.
6620 South Cicero Avenue, Chicago 38, Ill.

Please rush me your new bulletin describing all the ways Select-O-Phone can save my company money and increase efficiency.

NAME
COMPANY
ADDRESS
CITY STATE

▼ REPRINT—Identify by IEN - 7673 if you write the maker ▼

CONNECTOR . . Retrieving reel and electric cord for machine ground

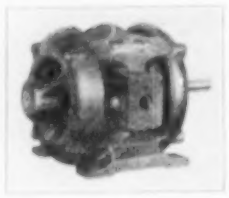
Source: BENJAMIN REEL PRODUCTS INC.
10706 Broadway, Cleveland 5, Ohio

Two designs are available in the series 500 retracting reels as shown in the illustration. One version of the cap of a retracting cord drawn into the ground. The other is bracket mounted for overhead mounting on a wall or ceiling. Both are equipped with 20 ft. of heavy cable, a retract cord or cord stop. The reel for attaching on the equipment to be grounded. The cord is supplied in standard lengths ending on the cable, or with a lug at intervals. List prices are $10.00 to $16.50.

▼ REPRINT—Identify by IEN - 7674 if you write the maker ▼

MOTOR . . Ball bearing induction, frames 224 to 326, for textile mills

Source: CENTURY ELECTRIC CO.
1806 Pine St., St. Louis 3, Mo.



Smooth surfaces, controlled overheating, permanent lubrication, a new line of motors designed for the consumer for use in atmospheres containing quantities of oil. This set and other motors have ball bearings. The motor is fitted with a gear reducer. Housing length is the sum of length, width, and depth. Shaft extension is 1½ to 22 inches. Diameter and weight are 11 to 10 inches.

The ball bearings are sealed in oil-impregnated felt and provide for normal years of trouble-free operation. Lubricant can be added in the field. Frame and end brackets are cast iron. Dust-proof plastic insulation holds the windings rigidly and increases the coil ends to prevent a thermal rupture.

▼ REPRINT—Identify by IEN - 7675 if you write the maker ▼

FIRE PROTECTION . . Instruction manual on planning and maintenance of plant fire protection

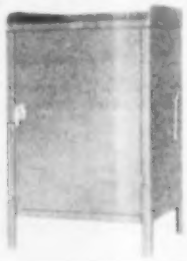
Factory Mutual Engineering Div.
152 Washington St., Boston 10, Mass.

Suggested procedures for fire protection in industrial plants are presented in new 32-page manual, "Organizing Your Plant for Fire Safety." List price is $2. Topics include how fires start and how to prevent them, the why and how of automatic sprinklers, types of extinguishing equipment, how to develop a fire fighting organization, organization, how to handle fire, flood, burst and emergencies.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 30

▼ REPRINT—Identify by IEN - 7676 if you write the maker ▼

KEEPS TOOLS HANDY ...ELIMINATES WASTED STEPS



ESSCO FLOOR TOOL CABINETS

Speed up work with ESSCO Cabinets and Tool Stands. They can be easily moved where needed, open or lock handles for high work due to sturdy construction . . . other work saving or keeping features. FLOOR TOOL CABINET No. 3668 (shown above) is 22 inches wide, 16 inches deep and 33½ inches high. Fitted with handles adjustable on 4 lock casters, grooved for [illegible] with two keys. Finished in baked on olive green enamel, ready for use. $21.40. Write for literature on complete line.

ELECTRIC SERVICE MANUFACTURING CO.
1723 Cambria St. • Phila. 32, Pa.

▼ REPRINT—Identify by IEN - 7677 if you write the maker ▼

WHEN YOU PUT A LOT OF LITTLE ONES INTO A BIG ONE — MAKE SURE IT'S A

JELLIFF DIPPING BASKET

For years making Wire Mesh have taught us a lot about this material, its fabrication and uses.

We make Dipping Baskets of any durable metal, and in any size and shape your products and process require.

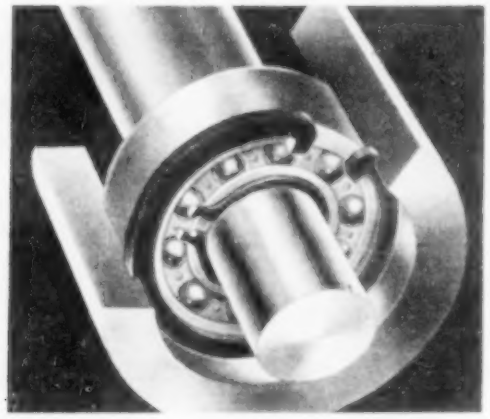
Naturally, we believe we make these just a little far better than the other fellows do — and a lot of people who come to us regularly for their Dipping Baskets seem to agree with us.

So—for Degreasing — Pickling — Plating — Anodizing — Washing — Heat Treating — or for just plain Bulk Handling or Storage of small parts in large quantities, let JELLIFF give you a careful no-obligation estimate for your next requirements of Dipping Baskets. Send a Blueprint or specifications to Department 12.

THE C. O. JELLIFF MFG. CORP.
SOUTHPORT CONNECTICUT

▼ REPRINT—Identify by IEN - 7678 if you write the maker ▼

Save Time Save Materials Save Money!



Examine the designs of **all** your products and machines. No doubt you can use retaining rings on axles and in housings—not **only to save assembly time, but to save weight, parts and space.**

The use of these inexpensive yet efficient artificial shoulders is already widespread, and is increasing daily.

There are literally thousands of places in which redesigning for retaining rings can increase your profits and improve your products—uses ranging from heavy duty engines and drill presses to toys, gadgets and small parts of innumerable articles.

It's wasteful to cut down shafts to make shoulders. Redesign to groove smaller shafts and housings and use these high grade steel rings.

Let our engineers consult with you. Send for folders.

Don't pass up this opportunity to increase profits.

THE NATIONAL LOCK WASHER CO
NEWARK 5, NEW JERSEY • MILWAUKEE 2, WISCONSIN

IEN-7680

WAB Controls are a proven means of governing a wide variety of functions, from a simple "push-pull" operation to precise positioning. Successfully serving on production machines, hoists, cranes, excavating equipment, oil drilling rigs, boats, etc. Illustrations show only a few of the many devices available. Ask for Bulletin 2481-1 for full details.

Westinghouse Air Brake Co.

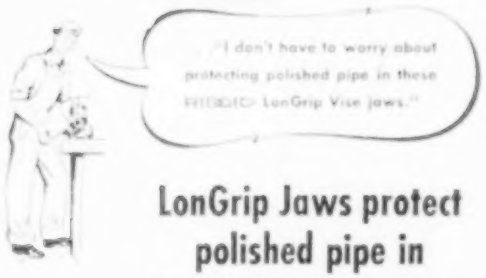
Industrial Division, Wilmerding, Pa.

DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

IEN-7681

BENCH YOKE VISE

that's a real *Time Saver*



LonGrip Jaws protect polished pipe in RIDGID vises

● You get years of trouble-free service with this more-for-your-money RIDGID Bench Yoke Vise. You like its easier-work features — integral pipe rest, handy bender that won't flatten pipe and LonGrip jaws that protect polished pipe. Special malleable frame and heat-treated tool-steel jaws for maximum wear. Made in 8 sizes, for pipe to 6." RIDGID bench, post, stand and Tristand pipe vises, yoke and chain types, all offer you real work-saver advantages. Buy them at your Supply House.

RIDGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL CO. • ELYRIA, OHIO

IEN-7683

DRILLING . . Pneumatic fixture for cross holes in small work pieces

Source: SNOW MFG. CO.
423-27 Eastern Ave., Bellwood, Ill.

Universal No. 1 [illegible]

The assembly [illegible]

IEN-7684

PROCESSING . . Pellet making mill for feeds, clays, coal, compositions

Source: SPROUT, WALDRON & CO.
541 Waldron St., Muncy, Pa.

Simplex 500 [illegible]

The machine [illegible]

The company [illegible]

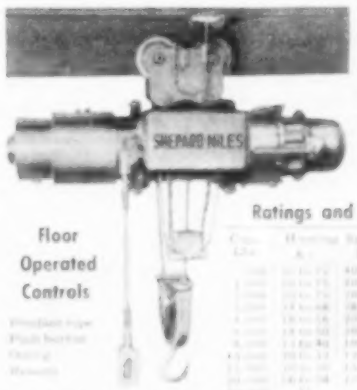
All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 46

IEN-7685

FOR WIDEST RANGE OF HOIST TYPES, CAPACITIES & CONTROLS

With Outstanding Wear-Eliminating Features

Easily — or quiet-go-gentle control with precision load leaves. Hoisting motor — Controllers are in-line mounted. Oil bath lubrication assures long, trouble-free operation. Sealed bearing keeps out abrasive dust and moisture. Anti-friction Bearings



Floor Operated Controls

[illegible]

Types

[illegible]

Ratings and Capacities

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Write for free literature

Shepard Niles CRANE & HOIST CORPORATION
456 SCHUYLER AVE. • MONTOUR FALLS, N. Y.

IEN-7686

PROTECTING THE HEART OF THE MOTOR *From Burning Out . . .*

Photo Courtesy
The Fairbanks
Electric Mfg. Co.
20 HP Dual Voltage
Capacitor-type Split Phase Motor

Protect it by the motor manufacturer, the Klixon Protector usually can guard motor against the motor from burning out by opening the motor circuit if the motor should a motor temporarily overloaded. When it could no longer, it resets the motor automatically. Klixon manual reset type is used, this manual is normally used by pushing the red button. Temperature sensitivity the bell-shaped automatic expansion.

Regardless of the size of motor, design, protection with Klixon Protectors, Bimetallic or thermostat and some protected are to be sure they have motors also equipped with Klixon Protectors, have more motor overheating problems.

KLIXON PROTECTED MOTORS — Unit will have more trouble-free operating, no motor repairs — and long equipment operation. Specify Klixon Protectors for the motors you buy.

SPENCER THERMOSTAT
Division of Metals & Controls Corp.
208 FORREST, ATTLEBORO, MASS.

IEN-7687

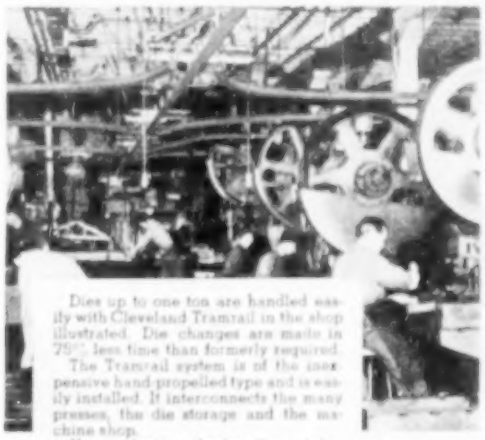
THIS BOOK CAN SAVE YOU MONEY ON QUALITY NAME PLATES

Etched or Intaglio-replied on metal, Ecoa quality name plates add sales appeal to your product — look better, longer. You can save money by using one of the 2000 shapes and sizes for which we have dies in stock. Ask us to quote on your name plate requirements. If you can use this book of stock shapes and sizes, write for it on your letterhead.

ETCHING COMPANY OF AMERICA
1320 Montana St., Chicago 14, Ill., Dept. F-3
SUBSIDIARY OF DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

IEN-7688

TIME FOR DIE CHANGES REDUCED 75%



Dies up to one ton are handled easily with Cleveland Tramrail in the shop illustrated. Die changes are made in 75% less time than formerly required.

The Tramrail system is of the inexpensive hand-propelled type and is easily installed. It interconnects the many presses, the die storage and the machine shop.

No accidents in the handling of dies and materials have occurred since this system was installed 12 years ago.

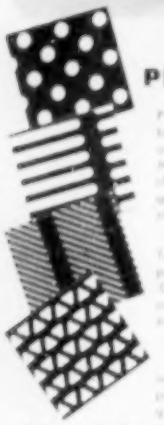
GET THIS BOOK!
BOOK No. 2008
Packed with valuable information

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
4238 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

▼ BREEFITT—(Identify by IEN-7689 if you write the maker) ▼

DON'T *Gamble* WITH SCREENS!



H & K
PERFORATED METALS

Precision perforating where you can't gamble with inaccuracy. Industrial or ornamental uses . . . special, unusual applications. Metals, plastics, fabricants, rubber, treated cloth, and other sheet materials of all groups. Twin Frame thickness to heavy steel 1" thick. Countless pattern choice.

Positive Uniformity

Tolerances as close as ±.0005". Round perforations from .020" to 9", slots from .006" wide. Strong smooth, easily cleaned surfaces. Stainless steel and chemical resisting alloys a specialty.

Complete FABRICATION FACILITIES

Fully equipped to roll, shear, braze and weld to specification, such as filter plates, trays, conveyor linings, radiator grilles. Consult H & K for dependable accurate pattern perforations to tow with your production budget.

Write today for free H & K Catalog 63

The Harrington & King PERFORATING CO.
5637 Fillmore St., Chicago 44, Ill.
114 Liberty St., New York 6, N. Y.

▼ BREEFITT—(Identify by IEN-7690 if you write the maker) ▼

B.F.Goodrich

TW-AW ANALYSIS PLAN
cuts tire & wheel costs
by as much as 50%

The BFG Analysis expert will make his recommendations—including suggestions on proper maintenance. He is completely impartial—has no axe to grind for any "type" of tire—B.F.Goodrich makes and sells ALL types to ALL users.

Studies prove savings can be made in 2 out of 3 cases. The TW Analysis (at no obligation to you, whatsoever) determines correct tire type, size, correct tread design, correct tread rubber compound . . . applies all factors to your specific job.

No problem is too small, or too large, for the TW Analysis man. Fill out the coupon below and ask him in—even though your problems are big, he will make a complete study for you.

HEAT, a factor in your plant? BFG "Oil-Proof" compound is highly heat resistant. B.F.Goodrich makes 14 types of tires with 6 different tread compounds. Tires include pneumatics, all types of solids and semi-pneumatics.

Special tires for special needs. The popular DeLuxe Cushion—ideal where cushioning is a must—wears longer than other cushion types, has no "inner cushion" of soft rubber to wear away rapidly.

The B.F.Goodrich Co.
Department TW-92
Akron, Ohio
Please give me additional information on your new Tire and Wheel Analysis plan.
Name
Title
Company
City State

▼ BREEFITT—(Identify by IEN-7692 if you write the maker) ▼

DRILLING . . Upright machine, box column design. 24 by 36 in. table

Source: CINCINNATI BICKFORD TOOL CO.
3234 Forrer St., Cincinnati 9, Ohio

New box table with T-slots is cast from the solid but has been added to the company's new one 24 in. drilling machine. The machine itself, previously designed, provides twelve speeds to any one of the various motors: 60 to 1,000 rpm, medium at 90 to 1,500 rpm. The three are obtained by another of the King motor to operate at 1,200, 1,500 or 1,800 rpm. There are nine feeds between .002 and .008 in. per revolution. Automatic trip is incorporated.

Maximum distance from spindle to table measures 32¾ inches. Vertical adjustment of the table is through 19¾ inches. The same adjustment for the drilling head is through 17¾ inches. The spindle carries a No. 4 Morse taper and measures 4 in. in sleeve diameter. The minimum spindle nose is 3¾ inches. Dimensions of the machine base are about 29 by 47 inches. Details concerning the line of machines are contained in 24 page Bulletin 1-25.

▼ BREEFITT—(Identify by IEN-7693 if you write the maker) ▼

DUST CONTROL . . Engineering service and required materials for given uses

Source: JOHNSON-MARCH CORP.
1722-26 Chestnut St., Philadelphia 3, Pa.

Ask for literature on given subjects

New service has been developed by the company through which it will survey any existing conditions in which dust control is desirable. Then the company will recommend suitable suppliers and drill supply and install the required equipment and action materials. Representative categories include outlets of dust in foundries, tube plants, paper plants.

▼ BREEFITT—(Identify by IEN-7694 if you write the maker) ▼

SWITCH . . Foot operated design, single and double throw for control use

Source: PIONEER PATENTS & PRODUCTS CO.
23-27 N. Franklin St., Chicago 6, Ill.

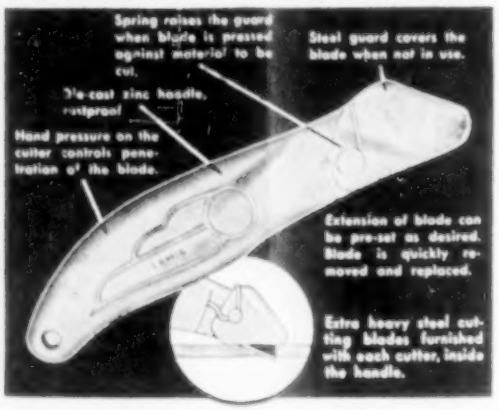
Model FS-10 and Model FS-50 are now offered. The equipment is foot operated, single and double throw control machine. Ratings are 10 and 50 amps on 110 volts ac. One is equipped with a cleat to secure BX cable. The other is supplied with a conduit nipple and plug. The company will supply special connections on order.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 36

▼ BREEFITT—(Identify by IEN-7695 if you write the maker) ▼

A New Invention . . . Safe . . . Different

LEWIS Automatic SAFETY CUTTER



Here is a new patented knife that cuts swiftly, surely, safely . . . yet protects the user from injury. Always safe because the blade is guarded — always ready to use because there's nothing to adjust.

$1.50

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

▼ BREEFITT—(Identify by IEN-7696 if you write the maker) ▼

OZITE all-hair felt has an outstanding record for solving problems of cushioning, padding, thermal and sound insulation. Our research and engineering staff are ready to give you competent assistance should you have any problems in these or similar applications.

OZITE felt in standard weights and thicknesses meets most production requirements. Special weights and thicknesses, as well as paper, cloth, or foil backings and stitched reinforcements may be had in production quantities.

Write today for OZITE bulletin No. 1500. If you desire samples for test, simply send a brief description of your application.

AMERICAN HAIR & FELT CO.
Dept. X508, Merchandise Mart, Chicago 54, Ill.

▼ BREEFITT—(Identify by IEN-7697 if you write the maker) ▼

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door . . . models for various purposes.

SOLD AT A LOW COST

. . . and the cost is especially low because it pays for itself many times . . . saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration, you have practically the same as indoor loading.

CAPCO

Be sure to write for illustrated literature and prices.

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

FREE!!!—Identify by IEN - 7699 if you write the maker

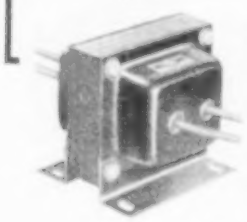
No wonder so many furniture manufacturers use Tuffles cushioning to impart greater luxury and sales appeal! Tuffles—made of fleecy, felted wood fiber—has remarkable, lasting, "spring-back" qualities. Absolutely uniform in texture, it cuts to any size or shape. Tuffles has a hundred and one other uses in industry! It provides better protective padding—insulates—deadens sound. Available in blanket or sheet form—manufactured to various densities, widths and thicknesses—Tuffles is waiting to do a better job for YOU.

For complete information, write us!

DEPT. IEN-90 FIRST NATIONAL BANK BLDG., ST. PAUL 1, MINNESOTA

FREE!!!—Identify by IEN - 7700 if you write the maker

TO DO A BETTER JOB...



Acme-Electric

CONTROL TRANSFORMERS

Machine tool automatic electrical circuits, signal systems, and alarms are often sensitive to electrical deviations. For these applications Acme Electric Control Transformers will provide a measure of safety and performance.

Write for Control Transformer Catalog C-176.

ACME ELECTRIC CORPORATION
268 WATER STREET CUBA, N. Y.

Acme ACME Electric

FREE!!!—Identify by IEN - 7701 if you write the maker

NEW! Low Cost *Micro-Mesh* DONALDSON AIR CLEANER!

No Tools Required for Servicing

Efficiency is compared—simply by using a dust sensor—the new Donaldson Micro-Mesh air cleaner meets every quality you look for in automotive air cleaners, yet the maintenance are doubtless, cut to a small fraction of the work of any other air cleaner. It blows efficiently, is easy, simple, complaining, cleaner performer. Dust-entering element is washed, can be used washed after washed, lasts from a continuous stream of fresh air supplied ribbon. Contains no adhesive, the filter element is placed in the dirty drawer, [illegible] under slight compression. It will not break down, drift or sag.

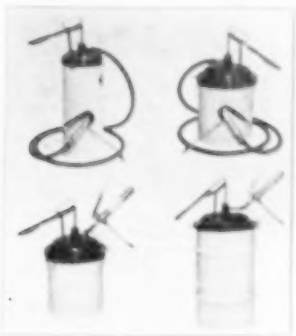
Simple Cleaner Sent On Request

DONALDSON COMPANY INC.
666 PELHAM BLVD. • ST. PAUL 4, MINNESOTA

FREE!!!—Identify by IEN - 7702 if you write the maker

LUBRICATING . . Hand operated pumps fillers and guns to handle grease

Source: BALCRANK INC.
Marburg near Disney, Cincinnati 9, Ohio



Handy Andy [illegible] lubricating equipment which the company has placed for the separate product line particularly for industrial use. The line includes two pressure boosters, one with the other 30-lb. capacity, 10-lb. boosters, other operated inside the other with a clamp cover to fit and standard 30-lb. capacity and with the lever, hose and handle. Also in the line are three hand-operated filters and a foot-lever gun. The filters appear on organized 25, 30 and 100-lb. capacity containers.

In the head of the hand gun is a fly or nipple that directly into the fitter valve which opens on insertion of the nipple and closes when it is removed. The gun will accept 14,000 lb. pressure on operating 25 lever. The lever and can be employed at 10 lever accepted pressure grease gun except the pin type and this can be adapted by adoption of a suitable filter nipple. Each [illegible] grease fitting [illegible] at 5000 pounds.

FREE!!!—Identify by IEN - 7703 if you write the maker

TRUCK . . Towing tractor will haul 10 ton on trailers on level

Source: CLARK EQUIPMENT CO.
Battle Creek 49, Mich.

Charlotte 3 is particularly suited to handle a train of trailers for [illegible] operations. It starts the unit down for easy pickup from storage or stations. The unit can be operated while riding or walking behind it. It provides a range of speeds from 1 to 4.5 mph. The drive is by a gasoline engine with clutch connection to the rear wheels. Steering is at the central control-type front wheel.

Control renders at a convenient [illegible] clutch and throttle bar that extends across the housing and is pivoted in normal vertical position on the rear wheel. Moving this bar forward engages the clutch and feeds the engine for forward motion. The weight of the bar acts normally as a brake. Positive braking is provided at a foot operated bar at the rear of the operator's platform. This bar is engaged in conjunction [illegible] a manual-operated brake.

All Makers of Items And All Other Products Are Listed In THOMAS REGISTER Descriptions . . Ratings . . See Page 10

FREE!!!—Identify by IEN - 7704 if you write the maker

RIGHT AT THE SOURCE OF WASTE

For this 15 hp motor power losses are concentrated where it does the most good—at the motor. A 5 kvar Sprague Power Factor Correction Capacitor across the motor's wiring supplies current from through transformers and wiring to a few inches . . . reduced power bills noticeably.

Sprague Cap-Cell Capacitors make it unnecessary to [illegible] can kept more than one used. Write for the Sprague free guide of cost-saving suggestions, No. 568.

SPRAGUE SPRAGUE ELECTRIC COMPANY NORTH ADAMS, MASS.
PIONEERS IN ELECTRIC AND ELECTRONIC DEVELOPMENT

FREE!!!—Identify by IEN - 7705 if you write the maker

YOU CAN BE SURE.. IF IT'S Westinghouse

For Improved Production

Westinghouse Oil-Tite Control Stations and Units are Control-Engineered for improved pushbutton control performance. Oil, coolant, cutting compound, water are sealed out. Eliminates possibilities of breakdowns due to faulty pushbutton performance. Can be applied to all types of heavy-duty pilot control circuits and controllers. Get complete information from your nearby Westinghouse office, or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-40017

Westinghouse
OIL-TITE CONTROL STATIONS

FREE!!!—Identify by IEN - 7706 if you write the maker

Pallet is made entirely of corrugated board, [illegible] of [illegible] is tightly bound with three Gerrard Steel Straps.

TIE IT TIGHT

... that means GERRARD!

● For over 65 years Gerrard Steel Strapping [illegible] and the stress at each corner of the package at the moment [illegible] that gives you the benefit of Gerrard's full strength at every corner, and the danger of breaking due to uneven stress is practically eliminated. Your packages are safer in transit, too, and damage claims are sharply reduced.

You get this added protection at low cost. Gerrard Round Steel Strapping costs about [illegible] than other metal strappings.

The services of Gerrard Engineers are available to you free of charge. Send for a free copy of *The Blue Book of Packaging*. Gerrard Steel Strapping Company, 1701 South Richmond St., Chicago, Ill.

USS **GERRARD ROUND STEEL STRAPPING**
UNITED STATES STEEL

FREE!!!—Identify by IEN - 7707 if you write the maker

To combat Corrosion... use HASTELLOY *Alloy Wire*

Trade Mark

Drawn wire of HAYNES alloy nickel-base alloys has high strength and excellent resistance to heat and severe chemical corrosion. This wire can be used efficiently for metal-spraying and for many types of automatic welding and hard-facing. It is also an excellent material for the fabrication of corrosion-resistant wire screens, filter cloth, heat-treating baskets and trays.

HAYNES alloy wire is available in cut and straightened lengths or coils, in diameters down to 0.068 in. from Haynes Stellite Company, Kokomo, Indiana. Wire in diameters from 0.068 in. down to 0.002 in. is available from an associate company, Kennet Laboratories Company, Inc., Madison Avenue and West 117th Street, Cleveland 1, Ohio. Write to us for more information on the subject.

HAYNES STELLITE DIVISION
Union Carbide and Carbon Corporation
UCC
General Office and Works, Kokomo, Ind.

BREEZE—Identify by IEN-7708 if you write the maker

Ferrox coated ramp at a large, well-known chemical company provides safe traction both up and down.

5000 LB. LOADS GET SAFE TRACTION ON THIS SURE-GRIP ferrox* SURFACE

PROBLEM—An outdoor ramp, subjected to weather, dirt, grease and hard use from heavily loaded trucks and busy feet.

SOLUTION—More than 3 years ago, **FERROX** abrasive compound was troweled onto ramp surface, at very low cost. Still giving good traction and sure footing today, under constant use.

FERROX is easy to apply . . . Simply trowel on danger spots . . . One gallon covers 40 sq. ft. . . . Dries over night . . . Firmly embedded abrasive particles provide good traction and sure footing under wet, dry or oily conditions.

For free literature illustrating uses and application data, write or phone Bob Eberly

AMERICAN ABRASIVE METALS CO.
468 COIT ST. • IRVINGTON, N. J. • Phone: ESsex 3-7060

BREEZE—Identify by IEN-7709 if you write the maker

NOW WE CAN MAKE THESE TESTS IN OUR OWN SHOP! SAVING TIME *and* COSTS!

DILLON
PORTABLE
UNIVERSAL TESTER

For Tensile, Compression or Transverse testing of any material. Can be readily and accurately operated by anyone trained or untrained. Capacity 10,000 psi with 1" cross section samples; 200,000 psi with samples ½" dia. 7 dynamometer gauges, 0-250 to 0-10,000 lbs. Average operator can make hundreds of tests a day on spot welded specimens, riveted assemblies, plastics, wire, rubber, cloth, etc. Counterbalanced handwheel makes operation easy. At maximum torque of 10,000 lbs., peak load on wheel is only 8½ ft. lbs. Can be motorized. Send for illustrated bulletin and low prices.

W. C. Dillon & Co., Inc.
5410 W. Harrison St.
CHICAGO 44, ILL.

BREEZE—Identify by IEN-7710 if you write the maker

You Might REVOLUTIONIZE your business tool

The cost of distributing millions of magazines was cut 13% last year . . . caused a revolution in the industry. A UNITABLE did the trick and paid for itself in nine weeks. This up-to-the-minute belt conveyor could be the answer to your distribution, assembly, or handling problem.

For the whole story, mail the COUPON

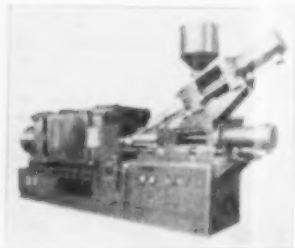
CONVEYOR SPECIALTY COMPANY INC.
35 Newport Ave.
North Quincy 71, Mass.

Please mail me your latest UNITABLE Bulletin.
Name
Company
Address

BREEZE—Identify by IEN-7711 if you write the maker

PLASTIC MOLDING . . Injection press rates 200 oz. of thermoplastic material

Source: WATSON-STILLMAN CO.
109 Aldene Road, Roselle, N. J.



New machine [illegible] plastics molding [illegible] by an operator [illegible] maximum space of 34 inches. Pressure in clamping position is 1,000 tons to back up the mold under molding pressures of 23,000 psi per square inch. Drive is [illegible] hp. motor and hydraulic equipment forming part of the complete assembly.

The supply hopper holds 200 oz. of thermoplastic material and the press has capacity to handle this material in 200-lb. shots. Overall dimensions are about 25 by 5 by 15 feet. Weight of the machine assembly is 110,000 pounds.

BREEZE—Identify by IEN-7712 if you write the maker

PAINTING . . Synthetic enamel for conveyor dip on odd shaped work

Source: UNITED LACQUER MFG. CORP.
1002 W. Elizabeth Ave., Linden, N. J.

List is $2.75 to $3.25 per gallon

Name [illegible] is a low priced [illegible] product [illegible] problems [illegible] Thus [illegible] can be handled satisfactorily in conveyor dip installations and other finishes will adapter readily without to Bonds [illegible] One dip application [illegible] by [illegible] and baking completes the finish in operation. Coverage is about 200 sq. ft. per gallon. Finish [illegible] in [illegible] finishes.

BREEZE—Identify by IEN-7713 if you write the maker

THERMOSTAT . . Bellows operated opens circuit at preset temperature

Source: WILCOLATOR CO.
1003 Newark Ave., Elizabeth 3, N. J.

New design of the compact a Series II thermostat employs a liquid filled bulb capacitor tube and bellows to operate a double acting snap-throw switching mechanism. The bulb senses at its control point. The switch is enclosed in a housing that measures 4½ by 3 by 3½ inches. The housing can be located on control surface, the bulb sense of the capacitor tube. Maximum temperature is 200°F. Equal lower range can be specified. Electrical capacity of the switch is [illegible] amperes [illegible] inductive applications.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

BREEZE—Identify by IEN-7714 if you write the maker

When fed to your steam system, **CORAVOL** (1) *prevents* corrosion in steam and condensate lines, (2) *cleans out* clogging rust deposits resulting from previous corrosion. Thus, **CORAVOL** protects lines, increases the effectiveness of heat transfer surfaces, restores original capacity of lines and the operating efficiency of valves and traps.

CORAVOL is part of a complete technical service which provides special formulas of treatment for: Boiler Feed Water . . . Hot Water Supply . . . Refrigerating Brine . . . Cooling and Condenser Water . . . Rapid Scale Removal . . . Coagulation . . . Algae Control.

Write TODAY to Western Chemical Company, 715 Washington Street, Kansas City, Missouri for complete FREE data about the **CORAVOL** process.

Western Chemical Co. is owner of U. S. Patent No. 2535024 covering the use of volatile additives in steam systems.

WESTERN CHEMICAL CO.
715 WASHINGTON KANSAS CITY, MO.

BREEZE—Identify by IEN-7715 if you write the maker

A FAST WAY TO REDUCE COSTS

Capacities from ½ to 1 ton
110, 220 or 440 volts

Hundreds of plants are cutting overhead with the CM COMET . . . a sturdy, high speed, portable electric hoist. All working parts fully enclosed and permanently lubricated. Don't buy until you see the CM COMET. Ask your local distributor for a demonstration.

Write for Bulletin 128
Get all the facts

CHISHOLM-MOORE HOIST CORPORATION
Affiliated with Columbus-McKinnon Chain Corporation
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York • Chicago • Cleveland • San Francisco • Los Angeles

BREEZE—Identify by IEN-7716 if you write the maker

Die Smashed? Shaft Broken? Operators Idle?

IT CAN'T HAPPEN WITH PROTECTRON

PROTECTRON is a proven, inexpensive electronic control that turns waste production costs into profits. PROTECTRON prevents costly tool and die breakage. Series overload or overhard stock, "pile up", and tool dullness. Automatically trips the machine at the slightest mechanical overload before damage occurs.

Write, wire or phone for a demonstration right in your own plant. No obligation.

The Brinnell Company
GRANBY, CONN.

BREEZE—Identify by IEN-7717 if you write the maker

THE di-acro NOTCHER

Duplicates Precision Notches WITHOUT DIES!

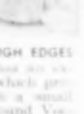
The new improved Di-Acro Notcher eliminates the need for punch press and dies on many production notching operations. It is also ideal for experimental work as it can be quickly adjusted for any size or shape notch. Many straight shearing operations can also be performed with this flexible unit.

CUTS CLEAN — NO BURRS OR ROUGH EDGES. The powerful Di-Acro Notcher has an exclusive roller bearing ram design which provides a tremendous pressure with a small amount of effort. The precision ground Vee-shaped ram and blades of alloy tool steel assure clean cuts and permanent accuracy.

LARGE CAPACITY. The Di-Acro Notcher cuts 90° notches up to 8" by 8" in 16 gauge steel in one operation. Larger notches and wider or narrower angles can also be obtained.

SEND FOR 40-PAGE CATALOG. Gives full information on all six "Die-Less Technicians" — punches, cuts, bends, Di-Acro Benders, Brakes, Shears, Slip Rollers, Punches, Notchers and many variations of accurately duplicated parts.

DI-ACRO is pronounced "DIE-ACK-RO"

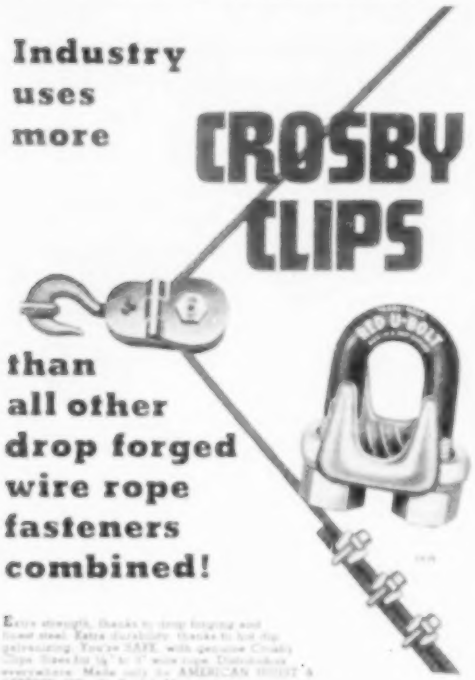


di-ACRO
O'NEIL-IRWIN MFG. CO.
316 8th Avenue, LAKE CITY, MINN.

REFER TO INDUSTRIAL EQUIPMENT NEWS IN YOUR INQUIRIES TO MANUFACTURERS SO THEY CAN SEND SPECIFIC INFORMATION

▼ BRIEFIT—Identify by IEN-7718 if you write the maker ▼

Industry uses more CROSBY CLIPS than all other drop forged wire rope fasteners combined!



Extra strength, thanks to drop forging and tempered steel. Extra durability, thanks to hot dip galvanizing. You're SAFE with genuine Crosby Clips. Sizes for ⅛" to 1" wire rope. Dependable everywhere. Made only by AMERICAN HOIST & DERRICK CO., St. Paul 1, Minnesota.

▼ BRIEFIT—Identify by IEN-7719 if you write the maker ▼

RUBATEX

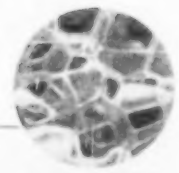
seals the windows of the Stratocruiser

- AIRTIGHT UNDER PRESSURE DIFFERENTIAL
- DOESN'T SCORE OR CRAZE PLASTICS
- UNAFFECTED BY TEMPERATURE CHANGE
- ZERO MOISTURE ABSORPTION—WEATHERPROOF
- RESISTS OXIDATION

The windows of Boeing Stratocruisers are sealed with Rubatex Gaskets to prevent escape of air from pressurized cabins at high altitudes. The dense, sealed cell structure of Rubatex has excellent compression strength, high resilience and forms a leak-proof joint without crazing or scoring the plastic windows. It compensates for irregularities in adjoining surfaces and has high insulating properties.

Rubatex Closed Cell Rubber cannot absorb moisture even at cut edges. It is rot and vermin proof. Most gasket requirements can be cut from sheet stock, thus avoiding the expense of a molded skin.

Consider Rubatex for your gasketing, cushioning, shock absorbing or vibration damping applications. It is available in natural and synthetic stocks in soft, medium and firm forms. Our engineers can give you valuable assistance from their experience with countless other uses. For further information write for Catalog RBS-12 B. Great American Industries, Inc., Rubatex Division, Bedford, Virginia.



RUBATEX CLOSED CELL RUBBER

▼ BRIEFIT—Identify by IEN-7721 if you write the maker ▼

LATHE TOOL . . Turning attachment has steadyrest for long slender work

Source: TODD CO.
1100 University Ave., Rochester 7, N. Y.

Large Turnomat is a new turning attachment used to mount on the compound of a lathe on the other side of a lathe to machine work that is too long and too slender. Improves finish. The steady part provides the work support in a ball-bearing mounting assembly that mounts the work piece in a vise. Tools are advanced by turning and feed screw slides to cutting position. Feed engages the lead screw on the lathe.

Four sizes for accepted sections and turn turning have cutting capacity of ⅛ to 1¼ inches. Equipment for each includes one pilot, one set of gages and two cutter bits. Two sizes for taper turning have 1 and 1¼ in. cutter capacity. Equipment includes one pilot, six gages and three cutter bits in each case. The bits are ⅛ in. ⅛ in. ⅛ in. in length. List price ranges from $225 to $426.

▼ BRIEFIT—Identify by IEN-7722 if you write the maker ▼

SLIP PROOFING . . Abrasive fluid paints on concrete, iron, steel, wood

Source: MERCHANTS CHEMICAL CO.
47 Elm Court, Stamford, Conn.

Standard colors
black, gray, white

Powdered abrasive is suspended in a solution of thermoplastic resin in this new Dress-Grip material. It is brushed on a surface to make it slip proof. It dries to a tightly adhered abrasive film that will not conduct electricity and is not affected by changes in temperature, or contact with certain acids, alkalis, grease, oil, salt water. It cannot be applied on galvanized iron.

▼ BRIEFIT—Identify by IEN-7723 if you write the maker ▼

SEPARATING . . Laboratory centrifuge for qualitative analysis, to 5,000 rpm.

Source: PRECISION SCIENTIFIC CO.
3735-39 W. Cortland St., Chicago 47, Ill.

Stainless-steel housing encloses the six-tube head in this new laboratory centrifuge. A stainless-steel cap is provided to cover the access opening in the top so the head can operate in protected position. Drive is by a 1/20-hp. universal motor for operation on 110-volt a.c. or d.c. A rheostat controls the speed to a range from 1,000 to 5,000 rpm. A brake is provided to assist in stopping the action, accepting 6-in. test tube from 3-in. wide to 12 by 85, inclusive.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 16

▼ BRIEFIT—Identify by IEN-7724 if you write the maker ▼

MORSE

"ROCK-A-DRUM" VERTICAL TRUCK

WHEELS TO ANY LOCATION!

Specially engineered for use with drums which can be drained only in a vertical position. The Morse Truck is easily locked into dispensing position by one man. The weight of the load is evenly distributed over the four wheels and adequate clearance is provided under pouring spout.

Write for Bulletin 949

Model Z 44

MORSE MANUFACTURING CO. INC.
123 Dickerson Street Syracuse 2, N. Y.

▼ BRIEFIT—Identify by IEN-7725 if you write the maker ▼

Compensator Control Cuts Costs

A compensator controlled HydroOilic pump stays horsepower during dwell periods . . . use less space than two pump circuits . . . often reduce pump needs from two units to only one . . . eliminate the need for unloader valves, extra piping, and double and shaft electric motors . . . frequently permit the use of smaller electric motors . . . improve over all circuit efficiency . . . allow an limited adjustment or control for varying requirements . . . reduce heat by increasing efficiency during high pressure operation. These and other advantages make Denison compensator controlled hydraulic pumps a better, lower cost answer to a wide variety of needs. Write for full details!

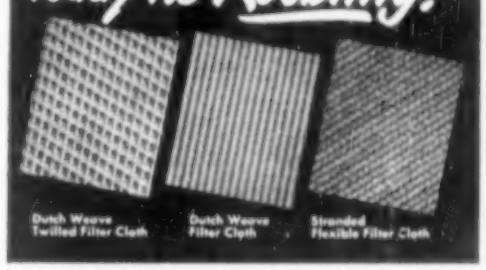
DENISON HydroOilic

The DENISON Engineering Co., 1150 Dublin Rd., Columbus 16, Ohio

Denison HydroOilic Pumps

▼ BRIEFIT—Identify by IEN-7726 if you write the maker ▼

FOR METALLIC FILTER CLOTH . . . *Today it's Roebling!*



WHATEVER your requirements, Roebling can supply Metallic Filter Cloth woven of the right metal or alloy, and in the right weave and mesh, for topmost efficiency and service life. The weaves illustrated above provide the extra strength needed for higher pressure or vacuum. They are adaptable for almost any type of filter . . . smooth weave and easy to clean . . . provide free discharge of filtrate, and hold back the finest solids.

Send for full information about Roebling Metallic Filter Cloth. We shall be very glad to discuss your special problems and to furnish samples.

WOVEN WIRE FABRICS DIVISION
JOHN A. ROEBLING'S SONS COMPANY
ROEBLING, NEW JERSEY

A CENTURY OF CONFIDENCE

▼ BRIEFIT—Identify by IEN-7727 if you write the maker ▼

Twin Disc Announces the *Hydro-Wynd* for Constant Tension Wind-up

The Hydro-Wynd combines a hydraulic coupling drive with a planetary assembly to control the delicate job of maintaining constant tension and speed on a wide-range wind-up without constant adjustments.

The Hydro-Wynd automatically balances speed changes in the drive to the spool shaft, adjusts to the wind-up tension, and speed can be set for any desired tension.

For all types of winding applications—

wire, plastic, fibers, etc. . . . use on textiles . . . wire cover and insulation and coated fabrics speed and tension are constant.

See your Twin Disc Dealer or full catalog page 404 in the New Machine Design.

TWIN DISC

Clutches & Hydraulic Drives

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

▼ BRIEFLY—Identify by IEN - 7728 if you write the maker ▼

SCHRAMM Pneumatractor

SCHRAMM Pneumatractor equipped with either D-45 or D-55 Rock Drill. Can also be furnished with PNEUMATAMP—(Two) 87-32 Backfill Tampers or PNEUMABREAKER—8-80 Paving Breaker. Handy combinations for plant maintenance and general construction work.

Write for Bulletin PPJ-50

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

▼ BRIEFLY—Identify by IEN - 7729 if you write the maker ▼

HEAR CLEARLY in the QUIET ATMOSPHERE of a BURGESS MANNING ACOUSTI-BOOTH

You can hear easily . . . talk comfortably in the noisiest surroundings . . . in a Burgess-Manning Acousti-Booth. Thick walls of sound-absorbent material soak up noise. Conversations are clearer . . . "private." Airy, no door . . . easily moved . . . sturdy construction.

NOTE THESE OUTSTANDING FEATURES
- Quiet inside
- Airy interior
- Movable—lightweight
- Sanitary—open construction
- Low maintenance cost—no movable or breakable parts
- Suited to any location

MAIL COUPON FOR FREE BOOKLET
Burgess-Manning Company
743 A East Park Ave., Libertyville, Ill.
Please send me your booklet describing Burgess-Manning Acousti-Booths.
Name
Firm Name
Street CIS

▼ BRIEFLY—Identify by IEN - 7730 if you write the maker ▼

HERE'S A PLANT THAT'S SAVING MONEY for a LOT OF PLANTS

American Welding makes rings, bands, and welded products for hundreds of other manufacturers at real savings! We believe we can save money for you.

Designers, engineers, and metallurgists are ready to work with and for you. All types of resistance and fusion welding equipment for working with ferrous and non-ferrous metals and alloys are available, as well as heat-treating and machining facilities.

Send prints and specifications for prompt attention.

SEND FOR 20-PAGE CATALOG

THE AMERICAN WELDING & MANUFACTURING CO.
180 DIETZ ROAD • WARREN, OHIO

▼ BRIEFLY—Identify by IEN - 7731 if you write the maker ▼

HOIST . . Motor driven chain design uses roller chain, rates 1/4 to 2 ton

Source: WHITING CORP.
15629 S. Lathrop Ave., Harvey, Ill.

The motor in this recently improved hoist connects to the load chain operated through a double-reduction set of steel worms and bronze worm-wheels in a non-overhung design. Any load brake is unnecessary when the motor circuit is opened. At the same time the motor shaft is equipped with a spring-set shoe-type brake that is opened momentarily when the control cord is pulled for up or down movement and is released to prevent coasting when the cord is released. Hunting shafts ride on ball bearings. Single and pole-phase motors and dual-voltage motors, on ball-bearing design, are subject to specification.

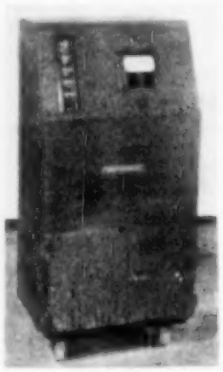
Four sizes in the line rate 1/4 to 2 ton. Hoist speed is to 30 fpm on the smallest and to 10 fpm on the largest. Limit switches prevent overtravel in either direction. Lift height is subject to specification. All sizes measure about 12 in. in overall length by 10 1/2 in. in width. Minimum hook to hook dimensions is 20 to 22 1/2 in. depending on the rating. Suspension brackets for track mounting and chain containers for high lift assemblies can be ordered.

Bulletin H-112, 8 pages, illustrates and describes the hoist and accessory equipment, tabulates operating and motor data, shows layout of worm and gear reduction unit.

▼ BRIEFLY—Identify by IEN - 7732 if you write the maker ▼

TESTING . . Transformer equipment tests electric insulation to breakdown

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., P. O. Box 568-A, Pittsburgh 30, Pa.



Constant speed motor driven set mounted on a base gives the primary side of a high voltage transformer in this new test equipment. Stated test rate of rise of the second arc output from the trans-former is 500 volts per second. It is suggested uses for test include a test piece connected into current taps of terminals and. The assembly is in a cover-mounted housing that measures 20 by 16 by 25 inches. Weight is about 300 pounds.

An over-current relay stops the drive motor upon the pot-tests and de-energizes the circuit on breakdown in the test piece. The switch automatically remains fixed at the maximum reading until the drive is turned on once. A timer records actual test interval. Two ratings are 20 kv., 5 kva. and 12 kv., 2 kva.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 30

▼ BRIEFLY—Identify by IEN - 7733 if you write the maker ▼

Drill Hardened Steels without Annealing—

USE The New IMPROVED "HARDSTEEL" DRILL

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling—counterboring, countersinking and reaming in tools hardened by any process without first annealing the work. And then work with equal ease on work hardening steels and high carbon-high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit any drill press. They save time and reduce rejects. Eliminate costly engineering changes requiring additional drilling after hardening. And parts drilling after hardening are of much better quality.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are saving time in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY
Division Black Industries
1378 East 222nd St. • Cleveland 17, Ohio

Also makers of—BLACK DRILLING UNITS—AUTOMATIC SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS
Write for information

▼ BRIEFLY—Identify by IEN - 7734 if you write the maker ▼

MICROCASTING
Eliminates Special Tooling
Estimated Saving 75%

By using MICROCAST PROCESS to produce this alloy steel rocker arm for packaging machinery, the manufacturer saved an estimated 75% over conventional production methods.

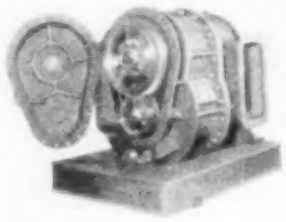
The MICROCAST PROCESS of precision casting may very well be the way to important savings for you. Accurate Microcastings are structurally sound, dimensionally uniform, requiring usually no machining. Write today for full information.

MICROCAST DIVISION
AUSTENAL LABORATORIES, INC.
224 East 39th Street, New York 16, N. Y.
715 East 69th Place, Chicago 37, Illinois

Write for FREE 16-page Booklet

▼ BRIEFLY—Identify by IEN - 7735 if you write the maker ▼

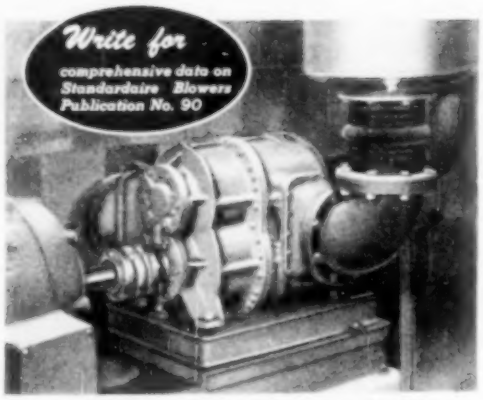
The STANDARDAIRE PRECISION BUILT Axial Flow BLOWER



Here's another important design feature of the Standardaire Blower — HEAT TREATED ALLOY STEEL TIMING GEARS — generated and shaved to extreme accuracy for quiet operation.

THESE helical gears keep the cycloidal form, screw type rotors of the Standardaire Blower in timed relation. There is no wind-up in the shafts between the rotors and gears as a very small percentage of the in-put power goes through the timing gears. The male or main rotor does the work and consumes the power, the female rotor acts simply as a valve or gate—further evidence of the finer features found only in the Standardaire Blower.

The Standard Stoker Co., Inc. Dept. C-20—370 Lexington Ave., New York 17, New York.



THE STANDARD STOKER CO. INC.
Standard Stoker
NEW YORK • CHICAGO • ERIE • MONTREAL

▼ FREE!!!—Identify by IEN - 7737 if you write the maker ▼

This building saves money 3 WAYS

The next time you need additional space, let prefabricated Armco Steelite Buildings save you money 3 important ways.

1. A few unskilled workmen can erect the building in a matter of hours. Valuable time is saved because Steelite Sections provide both structural support and finished surface.

2. You also save on maintenance. Steelite Buildings are rigid, weathertight, fireresistant and lightning-safe when properly grounded. About all they ever need is an occasional coat of paint, and even here you save money because the special Zinc-Iron Pentrake Steel takes paint readily and holds it long.

3. Changing conditions can be met economically with a Steelite Building. It can easily be expanded with standard parts, rearranged, or the entire building can be dismantled and erected on a new site without loss of material.

WRITE FOR THE COMPLETE MONEY SAVING STORY

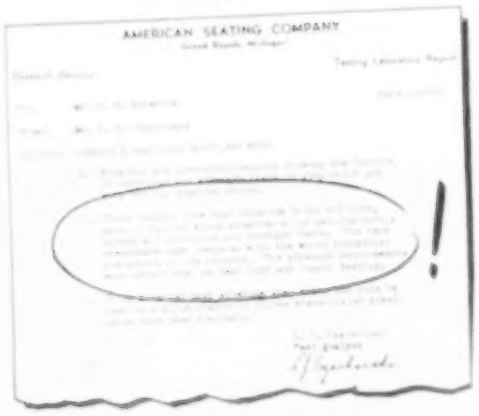
ARMCO DRAINAGE & METAL PRODUCTS, INC.
4010 Curtis Street
Middletown, Ohio

ARMCO

▼ FREE!!!—Identify by IEN - 7738 if you write the maker ▼

Laboratory Tests Dictate Choice of Alcoa Aluminum Fasteners by American Seating Company

(Above) Yale Grounds, home of the New York Giants, where seating was installed by American Seating Company. Alcoa Aluminum Bolts and Nuts are used exclusively on these seats. (Right) A typical stadium chair manufactured by American and the type of Alcoa Fastener used in it.



WRITE FOR SAMPLES Get a complete problem? Get Alcoa Aluminum Fasteners and get rid of it! We'll be glad to send you samples of the types and sizes you're interested in. Just write Aluminum Company of America, 2137H Gulf Building, Pittsburgh 19, Pennsylvania.

For local source of Alcoa Fasteners and other Alcoa Products, look under "Aluminum" in your classified telephone directory.

ALCOA

THE LOWEST-COST CORROSION RESISTANT FASTENERS ARE

ALCOA *Aluminum* FASTENERS

SHEET & PLATE • SHAPES, ROLLED & EXTRUDED • WIRE • ROD • BAR • TUBING • PIPE • SAND & PERMANENT MOLD CASTINGS • FORGINGS • IMPACT EXTRUSIONS • ELECTRICAL CONDUCTORS • SCREW MACHINE PRODUCTS • FABRICATED PRODUCTS • FASTENERS • FOIL • ALUMINUM PIGMENTS • MAGNESIUM PRODUCTS

▼ FREE!!!—Identify by IEN - 7740 if you write the maker ▼

PROTECTING . . Periscope shield for arc welding in confined locations

Source: INDUSTRIAL PRODUCTS CO.
2801 N. Fourth St., Philadelphia 13, Pa.

Weldoscope [illegible] of modern protective clothing combined with an image-inverted periscope as a welder operating in a confined place, all from direct sight can even tell are in the best position. The welding glass is in a cable protected position and can be turned out of the way of vision to operating a small lever. Removing the lever returns it to operating position. Both sight openings are covered by cover glass. The shield, shell and the handle are made of fiber. Length overall including the handle is 16 inches.

▼ FREE!!!—Identify by IEN - 7741 if you write the maker ▼

INSULATING . . Two silicone resins for electrical coating, impregnating

Source: GENERAL ELECTRIC CO.
101 Plastics Ave., Pittsfield, Mass.

Packaging is in 5 and 55 gal. drums

No. 81122 is a non-thixotropic [illegible] supplied as a 60 per cent solution in toluol. It [illegible] without a catalyst and is [illegible] and 55 gallon drums. It is an adhesive for glass cloth. Dry on film is 30 mils in an hour at 200 deg. C. Continuous operating is good to 2000 volts per mil in a film thickness of 30 to 40 mils.

No. 81115 is supplied as a 40 per cent solution in petroleum spirits and is intended for brushing and impregnating [illegible] insulation, magnet wire, [illegible] Class H. It cures when air is blowing [illegible] and [illegible] combination. The film cures in 30 to 35 mins at 200 deg. C. and [illegible] film thickness [illegible] to 1 to 2 mil [illegible].

▼ FREE!!!—Identify by IEN - 7742 if you write the maker ▼

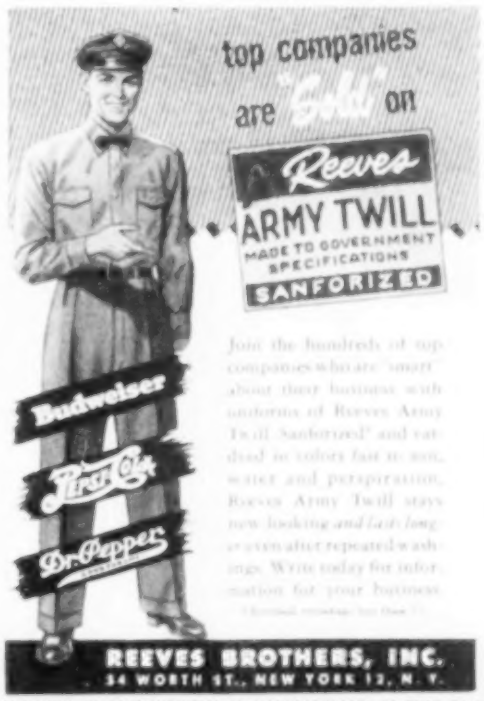
CLEANING . . Stainless steel wool scours, polishes, does not scratch

Source: F. H. LANGSENKAMP CO.
229-233 E. South St., Indianapolis 4, Ind.

Scorched spots, fine foreign particles are removed from food processing equipment, chemical apparatus, tanks, metal [illegible] by application of this new Sponge. The material is flexible, will not cut the hands. It can be employed with detergents, soaps, cleaning compounds. It is for only [illegible] to corrosion.

All Makers of Items And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 59

▼ FREE!!!—Identify by IEN - 7743 if you write the maker ▼



▼ FREE!!!—Identify by IEN - 7744 if you write the maker ▼

NOW! REDUCE MATERIAL COST

BUT GET PERFECT STAINLESS PROTECTION

with PERMACLAD

STAINLESS CLAD STEEL

PERMACLAD combines the surface characteristics of stainless steel with the forming qualities of carbon steel. It permits you to improve your products, provide corrosion resistance and cut forming costs. You can cold form PERMACLAD with ease—subject it to deeper draws without intermediate annealing—actually form it into products impossible with most other materials.

Hundreds of products from chemical and food processing equipment to automotive bumpers and show cases are being fabricated from PERMACLAD. Write for more information and FREE 8-page technical data folder P-8.

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

▼ FREE!!!—Identify by IEN - 7745 if you write the maker ▼

BLENDING AND SORTING WITH VACUUM

This Spencer Vacuum Producer is located between two huge storage tanks on the roof of a large chemical plant. Dried plastic granules are picked up from the trays with a Spencer "Gulper" tool as they come from the ovens. One tray containing 10 pounds of material is emptied in one minute. The plastic is then conveyed by vacuum to the roof, 35 feet above and is separated by the Spencer Centrifugal Separator and then dropped down over vibrating screens.

354-J

150 USES FOR VACUUM...ASK FOR BULLETIN
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER

▼ FREE!!!—Identify by IEN - 7746 if you write the maker ▼

INCREASE LIFTING CAPACITIES WITH KOEHRING TRUCK CRANES

On scattered lifting jobs requiring frequent moves, you'll find it pays to use Koehring rubber-tired Truck Cranes. 304 safely lifts up to 55,000 lbs. [illegible] more than its smaller sister. Smaller 205 Truck Crane (illustrated) with its 20,000 lb. lift on rubber, transport load capacities almost one-half.

Mail today to KOEHRING CO., Dept. IEN, Milwaukee 10, Wis.
Please send bulletin on ☐ 304 Truck Crane ☐ 205 Truck Crane
NAME TITLE
COMPANY
ADDRESS
CITY STATE
Type of plant or work

KOEHRING TRUCK CRANES

▼ REPRINT—Issued by IEN-7747 ▼

SAVE 5 WAYS with the NEW HAPCO AIR POWERED HYDRAULIC PRESS

1. LOW FIRST COST

2. NO INSTALLATION COST

3. SIMPLE OPERATION

4. MINIMUM MAINTENANCE COST

5. INCREASED PRODUCTION

HAPCO HY-AIR PRODUCTS COMPANY

1703 Pinehurst Rd., Jackson, Mich.

▼ REPRINT—Issued by IEN-7748 ▼

GPX CUTS COSTS AGAIN!

BUILD STRONGER, LONGER-LASTING PALLETS OF GPX

GPX Georgia-Pacific's plastic faced plywood, with a satin-smooth, atomic-hard surface that is part of the plywood itself, not merely an applied surface layer, is the perfect material for pallets. Extra strong, GPX won't splinter or chip—is super smooth to protect the most delicate load. Long lasting GPX is economical because pallets made from it can be used long after pallets of other materials have worn out.

Industrial users are also finding that GPX is ideal for instrument assembly line tables, storage bins, foundry and countless other plant applications.

GPX is Weatherproof — GPX is Water Resistant
GPX is Abrasion Resistant — GPX is Stain Resistant
GPX is Vermin Resistant — GPX is Smooth
GPX is Extra Strong — GPX is Workable
GPX is Durable — GPX is Attractive

GP — GEORGIA—PACIFIC PLYWOOD & LUMBER CO

BOSTON · CHICAGO · PHILADELPHIA · PORT NEWARK

FOR COMPLETE DATA, FILL IN AND MAIL THIS COUPON TODAY:

Georgia-Pacific Plywood & Lumber Co.
1256 Southern Finance Building
Augusta, Georgia

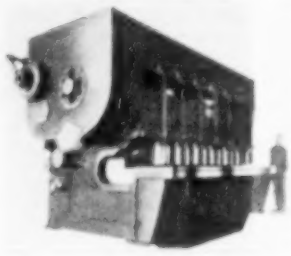
NAME
FIRM NAME
FIRM ADDRESS

Please send me the GPX Use Folder

▼ REPRINT—Issued by IEN-7750 ▼

SHEARING . . Pivoted blade machine rates 12 feet of 1 inch steel plate

Source: CLEVELAND CRANE & ENGINEERING CO.
1137 E. 283rd St., Wickliffe, Ohio



The upper blade

Operating speed

▼ REPRINT—Issued by IEN-7751 ▼

METAL PARTS . . Centrifugally cast and machined Monel and Inconel alloys

Source: JANNEY CYLINDER CO.
State Road & Shelmire Sts., Philadelphia 36, Pa.

Detail data on request

Finished parts

▼ REPRINT—Issued by IEN-7752 ▼

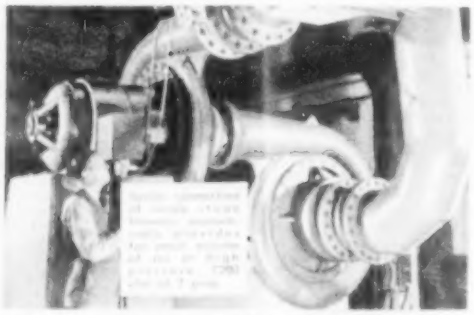
SIGNALING . . Battery powered gong for motor vehicle warns on reversing

Source: B. F. McDONALD CO.
5110-14 S. Hoover St., Los Angeles 37, Calif.

Reversalarm

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ REPRINT—Issued by IEN-7753 ▼



Air-Gas Handling

ALLIS-CHALMERS, 90PA-50 . . . 17
MILWAUKEE, WIS.

ALLIS-CHALMERS A-C

▼ REPRINT—Issued by IEN-7754 ▼

DARNELL CASTERS

A SAVING AT EVERY TURN

DARNELL CORP. LTD. · NEW YORK N.Y.
LOS ANGELES · CHICAGO · IN CANADA, CHICAGO & TO

▼ REPRINT—Issued by IEN-7755 ▼

Clean as a Whistle!

IF you clean metal parts here's how Pangborn can save you money...

Pangborn Blast Cleaning Equipment cleans metal parts at a profit—are satisfied users from coast to coast. One manufacturer writes that Pangborn saves him $4,432 yearly on cleaning costs. Another metal plant finds Pangborn cleans more metal parts, per week $11,000 annually on labor!

Savings up to 50% and more in cleaning time are not unusual for Pangborn users. A giant in Independence, Pangborn Equipment cleans, after, was between a full eight-hour job in just 20 minutes.

If you need metal cleaning cost . . . Pangborn's may need you. For 40 years Pangborn has been leader in the right cleaning equipment for every job.

MAKE A PROFIT CLEANING METAL PARTS!

Find out how Pangborn Blast Cleaning Equipment can save you money. Mail coupon or write today for free Bulletin 1200. Address: Pangborn Corporation, 2300 Pangborn Blvd., Hagerstown, Maryland.

Look to Pangborn for the Latest Developments in Blast Cleaning and Dust Control Equipment.

Pangborn

BLAST CLEANS CHEAPER
with the right equipment for every job

MAIL TODAY

PANGBORN CORPORATION
2300 Pangborn Blvd., Hagerstown, Md.

NAME
COMPANY
ADDRESS
CITY ZONE STATE

IEN-7757

AMES

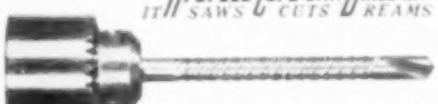
NO, NO BOYS! BE ACCURATE!

CHECK IT ON THE AMES

Representatives in principal cities. B. C. AMES CO. 35 Ames Street Waltham 54, Mass.
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

IEN-7758

MILLER ROTARY
HI-SPEED COPE-SAW DRILL-BIT
IT SAWS CUTS REAMS



DRILL PRESS SAW-CUTTING

ELECTRICIAN'S HANDY CUTTER

only $3.95 POST-PAID

Manufactured and distributed by:
INTERNATIONAL TWIST DRILL CORP.
624 Wyandotte Rm. 951 Kansas City 6, Mo.
"Pioneers in break-resistant short drills"

IEN-7759

WHERE AND WHEN YOU NEED IT!

Write today for catalog

SPO INCORPORATED
6453 GRAND DIVISION AVENUE
CLEVELAND 5, OHIO

IEN-7760

CUTTING . . Abrasive disc machine, 16-in. disc for operation wet or dry

Source: STONE MACHINERY CO.
501 Fayette St., Manlius, N. Y.

New design ...

Drive ...

IEN-7761

STEEL . . Stainless sheet, heat contraction compares to glass

Source: ARMCO STEEL CORP.
701-5 Curtis St., Middletown, Ohio

Carbon content is below .03 per cent

No. 430 ELC ...

IEN-7762

PUMP . . Self-priming centrifugal, engine drive, 250 gpm on 10 ft. suction

Source: McCULLOCH MOTORS CORP.
6103 W. Century Blvd., Los Angeles 45, Calif.

Weight ...

The assembly ...

IEN-7763

VENTILATING . . Induced draft fan mounts in boiler breeching or stack

Source: AMERICAN MACHINE & METALS INC.
552-56-12th Ave., East Moline, Ill.

The motor ...

Bulletin DB-22-50, 4 pages, ...

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

IEN-7764

Ohio plant cuts current 1/3 with G-E CAPACITORS

GENERAL ELECTRIC

IEN-7765

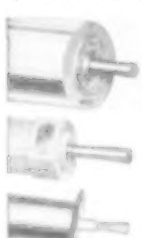
I Compared Wrenches

and discovered that choosing BLACKHAWK makes a surprising difference

NEW

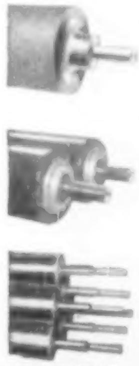
BLACKHAWK

IEN-7766



MANY INDUSTRIAL ROLL PROBLEMS are solved by using

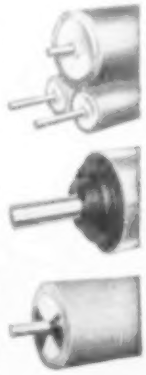
SHAF-TITE* ROLLS



Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel, plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48
Most complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.
175 Maple Street, Orange, Mass.



*Reg. U. S. Pat. Off.

▼ BREVITY—Identify by IEN-7767 if you write the maker ▼

New GENERAL FILTER

for Hydraulic and Lubricating Oils

NO CARTRIDGES TO REPLACE

There are no expensive cartridges to throw away or stock. Entire unit is disposable. First cost is only cost.

EASY TO CLEAN

Just remove one nut and all sediment and screens slide off. Wash in suitable solvent and replace. It's as simple as that.

FILTRATION TO SUITE EVERY APPLICATION

Write!

For prices and specifications. Describe your application.

This Model 1200 GENERAL FILTER can be made to filter solids from .040 inch to 5 microns by varying the mesh of the filtering screens. Comes in two standard lengths, 8 inches and 4 inches, but can be made any length to provide capacity between 5 and 30 gallons per minute.

GENERAL FILTERS, Inc.
12890 WESTWOOD — DETROIT 23, MICH.

▼ BREVITY—Identify by IEN-7768 if you write the maker ▼

for ANODIZING ALUMINUM process

Newly developed Tank gives

3 YEARS SERVICE!

VALUABLE SAVING IN TIME—OPERATION—PRODUCTION

Expressly designed for anodizing. The New Langsenkamp anodizing tank gives you at least 3 full years of service (other tanks, less).

Langsenkamp anodizing tanks are additional within themselves. Electrolyte is kept by a minimum quantity actual presented.

Available in 10 sizes. Continuous tank, aluminum or lacquer tank. Long when desired. Economically priced.

TUMBLER RACKS—GIVE 50% MORE SERVICE

This tank also saves money by using Langsenkamp Tumbler Racks. Langsenkamp Wire-Mesh Tumbler Racks provide better conductivity, increasing tank service life.

Write today for Langsenkamp Bulletin of anodizing tanks. Or write by 30 Years for the details with.

F. H. LANGSENKAMP COMPANY
229-235 East South Street — Indianapolis 25, Ind.

▼ BREVITY—Identify by IEN-7769 if you write the maker ▼

Outwear ordinary work gloves 3 to 9 TIMES—Cut your costs

Edmont gloves coated with **NEOX** (reinforced neoprene)

resist cutting and abrasion as well as oil, acid, caustic, solvents.

Strong lining reinforces, prevents snags, makes gloves comfortable, easy on and off.

In overall or palm and thumb coated styles. Also natural rubber or plastic.

We can show you the records of many months job tests, on a great number of operations where workmen wore 3 to 9 ordinary gloves, while hand while handling a single Edmont coated-fabric glove on the other. Power cost savings range from 40% to 70% on cost work. Let us prove it.

SPECIAL TEST OFFER — Write today for sample during operation (specify job), handled and temperature conditions. Recommended gloves will be sent without cost for sample purposes and test report. Address EDMONT MFG. CO., 558 Orange St., Evansville, Ohio, World's Largest Maker of Coated Gloves.

Edmont FABRIC-LINED NEOX-COATED GLOVES

▼ BREVITY—Identify by IEN-7770 if you write the maker ▼

PUMP . . Vacuum-pressure assembly to gather, transfer, dispense liquids

Source: HONAN-CRANE CORP.
508-12 Indianapolis Ave., Lebanon, Ind.

An enclosed pump driven by a 1/3-hp. motor is mounted on a cast-iron drum cover and is equipped with a three-way valve to apply suction or pressure to the drum on which it is mounted. A two-wheel, low-pressure truck and connection hose with nozzle for the motor and an extension cord complete the assembly. The cover fits a standard 55-gal. drum. Intended application is particularly in handling coolants and oils.

Contaminated hydraulic oil or fluid packed can be removed for disposal or for cleaning from one hose setup. Clean oil and coolants can be replaced in the drums. Oils can be transferred from one container to another. Operation is protected by the fact that the pump function set on a and that a Morrison liquid-level control is included to prevent overflow. Available (1) Dispensing Unit in the designation.

▼ BREVITY—Identify by IEN-7771 if you write the maker ▼

FASTENING . . Bolts, screws, studs with locking offset in one thread

Source: THREDLOCK
9395-99 Whitall Lane, Grosse Ile, Mich.

Thredlock trade-mark two-locking design for applications on bolts, screws, studs, on a custom basis. The company has granted license to certain manufacturers, is prepared to name them for production of threaded fastenings in sizes up to ½ inch.

The locking action is provided by an offset impressed into the side of one thread to lodge it into the next thread space. The hinge acts to grip the mating thread in the work when the fastening is turned into position. Tests show that repeated applications can be made.

▼ BREVITY—Identify by IEN-7772 if you write the maker ▼

WHEEL . . Pressed steel design, rubber tread, ball bearing, 5 to 12 in.

Source: AMERICAN PULLEY CO.
4242 Wissahickon Ave., Philadelphia 29, Pa.

New sizes have been added to the company's Steelite line of pressed steel wheels so the line now totals 144 units starting with 5 by 1¼ in. for a ⅝-in. axle and 1¼-in. hub length. It finishes with 12 by 4 in. for a 1½-in. axle and 1¾-in. hub length. All are equipped with ball bearings and with a grease reservoir normally holding six of the lubricant required for the wheel life. A lubricant fitting is added for use under extreme conditions.

Weight ranges from 1¾ to 5¼ pounds. Load capacity is 200 to 300 pounds. The tread is compounded for resistance to wear and deterioration. The bearings are sealed.

▼ BREVITY—Identify by IEN-7773 if you write the maker ▼

LATHE ATTACHMENT . . Hand bed turret provides 6½ in. effective tool feed

Source: SOUTH BEND LATHE WORKS
301 E. Madison St., South Bend 22, Ind.

Six tool positions are provided for on a new hand bed turret attachment. The unit, developed for use additional on the 10-in. lathe. The turret is indexed, set, locked and released by operating a superior wheel facing the operator. It takes tools 1½ in. in shank. Distance from the axis to the centers of tools is 1¼ in. The cross between tools across the turret is 9¾ inches.

Also available is a square turret tool block and a double tool post to be bolted to the top of lathe carriage. Double post provides for turret-style and cross-slide. The base covers the saddle which as the turret can be positioned close to the lathe spindle nose. There is an adjusting stop screw for forward movements of each turret face.

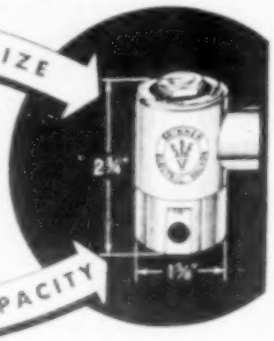
All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 30

▼ BREVITY—Identify by IEN-7774 if you write the maker ▼

SMALL IN SIZE

Solenoid Valves

STAINLESS STEEL



LARGE IN CAPACITY

THREE WAY-Two Position-Normally Closed-Normally Open-Directional Flow
TWO WAY-Normally Closed — TWO WAY-Normally Open

Skinner Solenoid Valves are extremely compact yet have unusual capacity—a great asset to designers looking for positive, accurate, long-lived controls for liquid and gaseous media. Available in standard pressure range of 5 to 250 p.s.i. and special from 5 to 850 p.s.i. Impregnated coils withstand moisture. Soft insert seats prevent leakage. Spring loaded for positive action. Usable in any position. Power consumption of 10 watts max. Pipe connections available to your specifications.

Write for Bulletin No. 491

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
134 Belden Ave., Norwalk, Conn.

▼ BREVITY—Identify by IEN-7775 if you write the maker ▼

3 Sturdy SMALL Shut-off Valves for EXTRA HEAVY Duty

Bulletin 8265

Bulletin 8265 . . • For air, water, light oil, refrigerants and other liquids and gases up to 250 psi for steam up to 175 psi. Factory Mutual and Underwriters approved. ½" pipe size, ¼" to ½" port size.

Bulletin 8268 . . • Similar but designed to handle a greater variety of materials up to 475 psi. Heavy bonnet up to 200 psi. ¾" and 1" pipe size, ¼" to ¾" port size.

Bulletin 8271 . . • For steam and other non-corrosive liquids and gases at high temperatures (212° F to 400° F). ¾" and 1" pipe size, 1/16" to ¾" port size.

These ASCO Valves are positive, thus eliminating stuffing box maintenance. Modified types of this series include valves that "open" rather than close on de-energizing — adjustable major flow and by-pass flow valves — and explosion-proof valves. All are described in detail in our catalog section 4-F. Write for your copy.

Automatic Switch Co.
353 Lakeside Avenue, Orange, New Jersey

When in need of Automatic Transfer Switches, Remote Control Switches, Contactors, Relays, and Specialized Electromagnetic Controls, come to us.

▼ BREVITY—Identify by IEN-7776 if you write the maker ▼

for POSITIVE, PERMANENT LEAK-PROOF CONNECTIONS

nothing compares with **RECTORSEAL**

There's a RECTORSEAL thread and gasket sealant for your requirements. It's proved in use, easy to apply, economical! It's the answer to trouble free, maintenance free, leak proof connections!

RECTORSEAL NO. 2
For service in all petroleum gases and liquids . . . gas distribution systems, gas appliance manufacturers, gasoline handling equipment, diesel fuel, and oil burner work, plumbing, heating and air conditioning.

RECTORSEAL NO. 7
For service in High Pressure Steam, Caustic Alkali, Strong Acids, Alcohol.

RECTORSEAL NO. 15
For service in Oxygen Lines.

Write Dept. N
RECTORSEAL, 2215 Commerce St.
Houston, Texas

Write for a free sample. Test it yourself!

RECTORSEAL
Manufactured by RECTOR WELL EQUIPMENT CO., INC.
Fort Worth, Texas

▼ DATA SHEET—Identify by IEN-7777 if you write the maker ▼

SUSPENDED HEATER SAVES FLOOR SPACE

• Can accept when and where you want it—immediate assistance. In a fragrant, smart, the Reznor suspended gas unit heater with the high space fan.

More Reznors are bought than any other similar brand by people like you. Because functional perfection is coupled with sleek, smooth finish and graceful lines. Sold by the thousands for stores, offices and industrial plants. Write for 20 page, Catalog or see your heating equipment dealer.

Gas Unit Heaters Since 1911

REZNOR MANUFACTURING CO. 10 UNION ST. MERCER PENNA

▼ DATA SHEET—Identify by IEN-7778 if you write the maker ▼

Guild POWER-CABLE

The SAW VALUE of the YEAR!

Always leaders in quality and value, these great Guild Saws are now more than ever so in a class by themselves with sensational new features—of no measure to prove. The new built-in tilting adjustment has an accurate, easy-to-read quadrant giving angle settings to 45°. The depth regulator works by a twist of the Depth Adjustment Knob, dropping or raising saw base to desired position in a moment. And with these new improvements go all the other quality features that gave Guild Saws their famous close popularity.

Superior Features From A to Z

Highest quality ball bearings on pickoff and armature • Lubricant forever maintaining • Special cast brass spacer keeps frame concentric • Super speed through 4000 RPM (Guil Saws' motor) • Extra safety through right-hand blade • Porter-Cable Universal non-sag swing guard • Full depth cuts (2" on A-6 and 3" on A-8) • Saw holder, projected, swings back, permanent pivot • Aluminum wheel cast metal worm block and side • Perfect balance with gear over center of gravity • Helical gear drive delivers 11% more power to blade • Extension set at exact angle to keep cutting zone flush. Stable guaranteed.

A-6 Still only $65.

A-8 Still only $87.

PORTER-CABLE MACHINE CO.

2668 N. Salina St., Syracuse 8, N. Y.

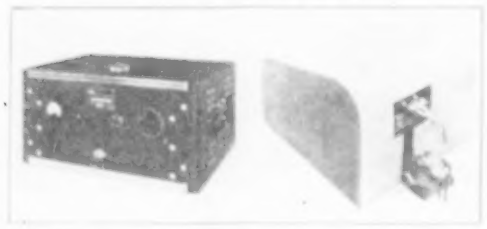
Manufacturers of SKIL-MATIC and GUILD Electric Tools

In Canada: Write Strongbridge Ltd., St. Catharines, Ont.

▼ DATA SHEET—Identify by IEN-7780 if you write the maker ▼

WELDING . . Resistance equipment is powered by discharge from condenser

Source: FEDERAL TOOL ENGINEERING INC.
530-34 Mulberry St., Newark 5, N. J.



Power unit. [illegible]

Three standard sizes [illegible]

The company has prepared [illegible]

▼ DATA SHEET—Identify by IEN-7781 if you write the maker ▼

GENERATOR . . Engine driven ac. unit. 400 cycle in 350 to 1,000 watt ratings

Source: GICO INC.
1818-22 N. Nash St., Arlington, Va.

Power Bug [illegible] ac. generator and 2-cycle air-cooled gasoline engine in which a 350-watt unit weighs 28 lb. and one rating 900 watts weighs 32 pounds. The generator delivers 110-volt current for lighting and for electrical tools other than motors. Available also is a 6-volt battery-charger and that can be added to the generator.

The engine in the 350-watt assembly rates 1 hp. at 3,500 rpm. It has a 1½ in. bore, 1⅝ in. stroke. It operates on magneto ignition, is stopped by grounding the sparkplug to the frame by operating a cutoff spring.

Assembly includes a fuel tank holding a 4 hr. supply. Lubrication is by mixing oil with the gasoline. Overall dimensions are about 14 by 12 by 11 inches. Output is of a duplex receptacle, each connection of the two rating 200 watts. Mounting is on a base on shock absorbing feet.

▼ DATA SHEET—Identify by IEN-7782 if you write the maker ▼

PROJECTING . . Optical equipment enlarges and reduces for reproduction

Source: J. J. ENGEL INC.
622-24 Syndicate Bldg., Minneapolis 2, Minn.

A photograph, [illegible] a clip on a [illegible] adjustable vertical copy board at the top of the new Art-O-Graph where it is illuminated by four reflector-type photoenlarging lamps in a housing that also contains a horizontal mirror positioned to reflect the image downward. The housing is extended downward by a bellows to a compartment 18 deep to project the image on a drafting table. Vertical focusing and a mechanism for enlarging and reducing are bracket mounted to the bellows the table top where the operator can get at them as he watches the image on the board.

Line or wash drawings can be made in accurate tracing and the finite photo images. One drawing can be superimposed over another or indicated for more used. The machine will project sharp outlines of physical objects as well as flat sheet images. It can be set to fit the top of a 30 by 48 in. drawing board. Enlargement is maximum at 4 to 1, reduction at 1 to 5. The equipment mounts on a wall, stands 9 ft. in height to 10 in. in width.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings See Page 50

▼ DATA SHEET—Identify by IEN-7783 if you write the maker ▼

NOW AVAILABLE IN SPECIAL METALS FOR HANDLING CORROSIVE MATERIALS

H & B Jacketed Pipe and Fittings, which have been used for years in processing non-corrosive materials, are now available in cast or welded steel, or stainless steel if required, for handling corrosive materials. In any processing operation where the maintenance of a uniform temperature in the process pipes is essential, an H & B Jacketed Pipe System will assure dependable, economical processing. We welcome inquiries on the handling of either corrosive or non-corrosive materials. Illustrated Bulletin S-47 will be sent on request.

HETHERINGTON & BERNER, INC.

725 KENTUCKY AVENUE • INDIANAPOLIS 7, INDIANA

▼ DATA SHEET—Identify by IEN-7784 if you write the maker ▼

MAN-HOURS CUT IN HALF
– storage space increased 20% with BAKER TRUCK

MITCHELL SALES and STORAGE, Inc., of Fort Worth has cut labor costs and increased available storage space by substituting a Baker Truck for hand methods. Quicker movements of 350 lb. bags of flour, sugar and other operations and machine cars and hopper trucks, and stacking in the racking storage are now handled in one hoist by the Baker Truck. Formerly each bag had to be manhandled at least twice to complete its and two movements. In addition to a 10% cut in man-hours, stacking bags (3 instead of 2) high has added 20% effective storage space. Mitchell estimates that the truck, now 8 months old, paid for itself the first month it was in service.

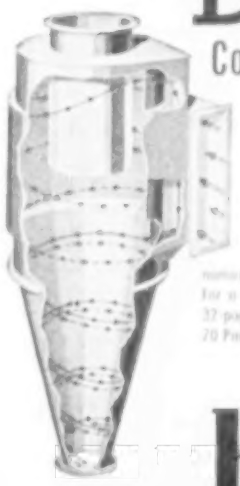
Similar savings may be possible in your plant or warehouse. A Baker Material Handling Engineer will show you how.

BAKER INDUSTRIAL TRUCK DIVISION *of The Baker-Raulang Company*
1226 West 80th Street • Cleveland 2, Ohio

Baker INDUSTRIAL TRUCKS

▼ DATA SHEET—Identify by IEN-7785 if you write the maker ▼

Want the Answers on Dust Collection and Recovery?



Every industrial engineer should know about the patented von Tongren "blow-off." Exclusive on the Buell dust collection system, it makes possible dust collection that is efficient yet economical. Buell design eliminates plugging. For a full description, write for the new 32-page catalog to: Buell Engineering Co., 70 Pine St., Suite 5030, New York 5, N. Y.

buell

Engineered Efficiency in **DUST RECOVERY**

Manufacturing in the U. S. & Canada for Shipment Throughout North & South America

IEN-7786

The LAUSON Company

IEN-7787

MACHINING Cut 50%

WEIGHT Cut 70%

You can save on ring-shaped parts

DRESSER RINGS

IEN-7788

CUT PLUMBING UPKEEP COSTS WITH 'SEXAUER'...FIRST and ONLY house to bring you these exclusive quality features

PAT'D BIBB SEAT RE-FORMING TOOL

PAT'D "EASY-TITE" FAUCET WASHERS

EXCLUSIVE 7-PLY FABRICATED TOP BIBB GASKET

EXCLUSIVE "SEX-ITE"

PAT'D FLUSH VALVE RE-FORMING TOOL

PAT'D "BLUE SPOT" BALLOON TANK BULBS

SEND FOR FREE CATALOG Listing 2,300 Triple-Wear Replacement Parts and pat'd Precision Tools as advertised in the SATURDAY EVENING POST.

J. A. SEXAUER MFG. CO., INC.
Dept. K-8, 2503-05 Third Ave., New York 51, N.Y.

SEXAUER
World's leading specialists in plumbing and heating maintenance.

IEN-7789

TESTING . . Portable instrument to detect explosive gas in atmosphere

Source: ATLAS EXPLORATION CO.
1909-13 W. Alabama St., Houston 6, Texas

Exploderfor is a [illegible]

A reading [illegible]

IEN-7790

CLEANING . . Compound makes electrolytic cleaning solution

Source: DuBOIS CO.
1118-22 W. Front St., Cincinnati 3, Ohio

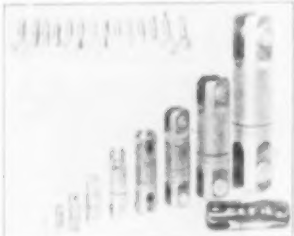
Ask for booklet "electrolytic cleaning"

Alkon [illegible]

IEN-7791

WIRE ROPE FITTING . . Swivel unit, ball bearing design, prevents twist

Source: GENERAL MACHINE & WELDING WORKS
1102 E. Second St., Pomona, Calif.



Fifteen types of end connections and nine swivel capacities [illegible]

Six sizes [illegible]

IEN-7792

TIMING . . Interval unit, contacts rate 10 amp. on 110-volt ac.

Source: EAGLE SIGNAL CORP.
200 Twentieth St., Moline, Ill.

Cycl-Flex [illegible]

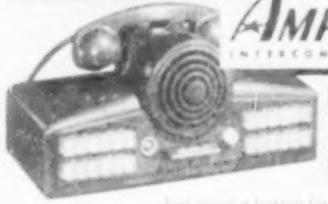
Application [illegible]

All Makers of These And All Other Products Are Listed In THOMAS REGISTER . . Descriptions . . Ratings . . See Page 58

IEN-7793

it takes just 2 seconds to reach- and talk to anyone in your business with

ELECTRONIC AMPLICALL INTERCOMMUNICATION



Speeds Work

Cuts Costs

SEE YOUR CLASSIFIED PHONE BOOK

Electroneering is our business
SOUND EQUIPMENT Rauland INTER-COMMUNICATION
RAULAND-BORG CORPORATION • 3523-K ADDISON ST., CHICAGO 18, ILL.

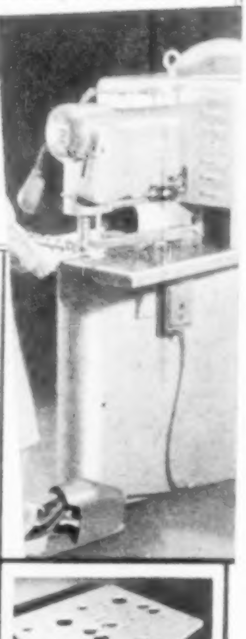
IEN-7794

2.32 min.

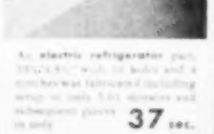
2.38 min.

Can you match these WALES FABRICATOR TIME STUDIES with your present methods?

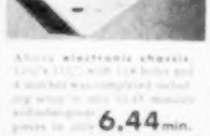
WALES-STRIPPIT CORP.



1.2 min.



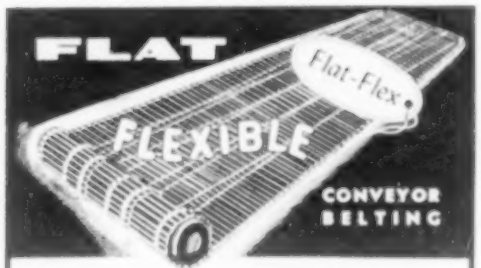
An electric refrigerator part 37 sec.



Above electronic chassis 6.44 min.

BREEZE—Identify by IEN-7796 if you write the maker

BREEZE—Identify by IEN-7797 if you write the maker



Interlocking wires lace together to form a continuously flat and extremely flexible, open mesh, conveyor belting. Simple to install, it is positively driven, easily guided, readily cleaned and quickly repairable.

Available in stainless steel, it can be supplied in light or heavy gauges, and in widths from 2". Special sizes, designed to your specifications, can be supplied at no extra charge. Most belts can be delivered from stock.

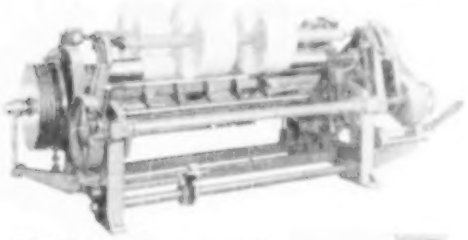
For typical applications and illustrated uses, write:

WIRE BELT COMPANY
OF AMERICA
750 Main Street, Cambridge 39, Mass.

BREEZE—Identify by IEN-7798 if you write the maker

Camachine 28-3D

A fast slitter-rewinder specially designed to produce top-quality rolls of coated or tacky papers and fabrics



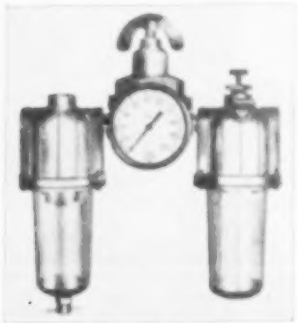
Another great Camachine! The 28-3D Surfacing Accumulator is a new product especially suited to medium density repetitional cutting, prior to the delivery of the material. Provides roll operation is assured by the use of two separate sizing units. Handles web up to 77" wide at speeds up to 500 f.p.m. Produces rewound rolls in widths up to 77" diameter with special chucks, and up to 30" diameter with Web Set Bulletin 2020.

CAMERON MACHINE COMPANY
61 POPLAR STREET • BROOKLYN 2, N. Y.

BREEZE—Identify by IEN-7799 if you write the maker

LUBRICATING . . Air line assembly also cleans air and regulates pressure

Source: AIRLUBE INC.
3420-24 W. North Ave., Chicago 4, Ill.



Air enters this new conditioning and mixing assembly through a Goodyear Type B-1 Pin-O-Filter in which water, oil, dirt are deposited in a transparent plastic bowl for occasional removal. The clean air passes through a vernier regulator valve equipped with a pressure gauge and adjustment for desired output pressure. From the regulator to flow is through a Goodyear Type B-1 Pin-O-Lubri where a mist of oil is picked up and carried with the air to the point of use.

Air capacity is to 45 cfm. Pressure is to 100 lb. with plastic bowls on filter and lubricator. It is to 250 lb. when the bowls are made of metal to specifications. Overall dimensions of the two separate units are 8 in. in diameter by 9 in. in height. The oil reservoir holds ½ pint. Pipe size is ¼ and ⅜ inch.

BREEZE—Identify by IEN-7800 if you write the maker

CORROSION PROOFING . . Clear wax to apply on aluminum, brass, steel

Source: S. C. JOHNSON & SON INC.
1523-27 Howe St., Racine, Wis.

Dries tack free in ten minutes

New wax has been developed for brush, dip, spray or wipe application on metal surfaces to be exposed out of doors where the metal is subject to corrosion. The wax dries in place to provide a protective invisible film. It can be left on in areas where the metal is to be painted as it forms a good base for the paint. Coverage is 2000 to 2,500 sq. ft. per gallon.

BREEZE—Identify by IEN-7801 if you write the maker

VALVE . . Butterfly design, 3 to 120 in. for pressures to 150 lb.

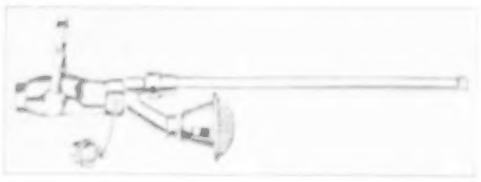
Source: R-S PRODUCTS CO.
4528-32 Germantown Ave., Philadelphia 44, Pa.

Single piece body with extension. Dow 17 Type Gasketed has been added to the company's line of Butterfly Range Valves for 3" through. Design No. 570 Hand wheel and mounting bracket are the same as on the double Range valves. The valve is self locking in any position to which the valve operator has been set. Valve is tested to 150 psi pressure without leakage.

BREEZE—Identify by IEN-7802 if you write the maker

EXTINGUISHING . . Nozzle attachment delivers foam spray or solid stream

Source: ROCKWOOD SPRINKLER CO.
36-40 Harlow St., Worcester 5, Mass.



Type FF Foam Extension is a new attachment for the company's Wheel Type 40 nozzle that applies to the feeder gets to prove 10 the chemicals and special agent. It is easily used in conjunction with a Foam eductor or Foam proportioning equipment to the foam line to deliver a quick payment through the Foam adapted nozzle operator at a well Foam Wheel. The long arm and ball.

Three sizes are available as shown FF can with nozzles in ¾, 1 and 1½ in. foam cone, respectively. Below the nozzle suitable for use on flow to of foam connection. Differentiation can be and and equipment that can be extinguished very severe conditions, under as and with Foam.

BREEZE—Identify by IEN-7803 if you write the maker

GET THE Thor STORY

ON PORTABLE ELECTRIC

GRINDERS

. . . with Shock Absorber Spindle

Write for Catalog E-2

Over Thirty Sewer Line Grinders feature the exclusive "shock-absorber" spindle that provides longer service, easier, smooth handling . . . faster, more economical grinding. Ask your Thor distributor for a demonstration.

Right Angle Grinders and Bench Grinders also available

Belt Sanders
Sewer Cleaners
Drills
Grinders
Hammers
Impact Wrenches

Thor PORTABLE POWER TOOLS

Nibblers
Bar Setters
Polishers
Sanders
Saws
Screwdrivers

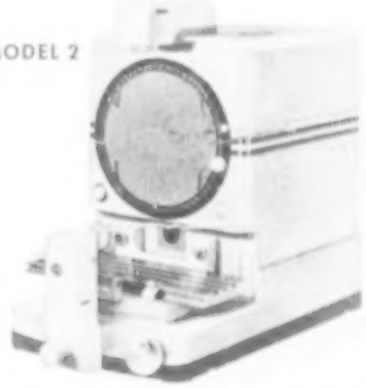
INDEPENDENT PNEUMATIC TOOL CO., AURORA, ILL.

BREEZE—Identify by IEN-7804 if you write the maker

Kodak *Announces the*

KODAK CONTOUR PROJECTOR

MODEL 2



the most versatile optical comparator you can buy

It handles large parts. There's 6¼ inches from lamp house to object and 8 inches from object to lens—*at all magnifications*. Front lamp house pivots to make room for long objects under surface illumination. Vertical travel is 4 inches.

It gives surface illumination in any of 5 planes, and switches instantly from surface illumination to silhouette projection, or to a combination of both. Instant dialing to any of 6 magnifications from 10× to 100× without distortion. The 14-inch screen is extra bright; no hoods or curtains needed—even in fully lighted rooms. Designed for all-day operator comfort, yet built to precise toolroom standards.

We'd like to show you how it can handle your own inspection problems.

EASTMAN KODAK COMPANY
Industrial Optical Sales Division
Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

SHOWS contours, of course
surface details . . .
deep, blind holes

Kodak

▼ BREVITY—Identify by IEN - 7806 if you write the maker ▼

GENERAL ELECTRIC

▼ BREVITY—Identify by IEN - 7809 if you write the maker ▼

DRIVE .. Automatic controls for P.I.V. variable speed transmission

Source: LINK-BELT CO.
305-9 N. Michigan Ave., Chicago 1, Ill.

Four types of automatic control have been developed by the company for application on its positive stepless P.I.V. variable speed transmission. The complete drive with the desired type of control is available in eight ratings between 1 and 25 hp. Speed ratio is maximum at 6 to 1. There are 18 standard types including plain, motorized, single and double-reduction geared, horizontal and vertical assemblies. Two of the four controls are shown schematically in the illustration.

Electronic control is suited particularly for installations in which the control point must be at some distance from the drive. It employs two potentiometers connected to form a bridge circuit. Movement of one, acting as the transmitter, produces a signal that is amplified to operate a small motor on the transmission adjustment. The other, serving as the follower, is rotated by the adjusting screw until its movement returns the bridge circuit to balance in the new speed position.

Hydraulic control is employed for [illegible], accuracy and rapid response to the movement of a lever-operated valve that can be actuated by various mechanical means requiring negligible force. A hydraulic cylinder and piston are connected to the pressure source and to the speed adjustment. Adjusting movement reacts upon the valve to bring it back into neutral or holding position upon reaching the new speed position.

Pneumatic control [illegible] variable air pressure through a pilot operated temperature or pressure controller and applies this pressure to a diaphragm or an air cylinder on the drive adjustment. Position of the speed setting depends on the pressure in the cylinder within its predetermined range.

Mechanical control is suited to cases where sufficient operating force is available for direct connection between the speed adjustment and the actuating source by simple linkage. A representative control of this type includes a cam and follower operated by a small motor. The speed adjusting lever on the transmission duplicates movement of the cam to change the drive speed at given intervals in a [illegible] cycle.

Book No. 2319, 8 pages, provides illustrations of the four types of control, includes typical installations in schematic [illegible], describes the control action.

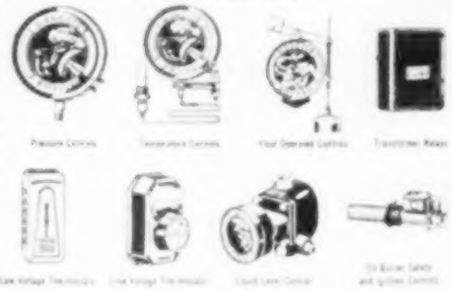
▼ BREVITY—Identify by IEN - 7812 if you write the maker ▼

MERCOID

AUTOMATIC CONTROLS FOR HEATING, AIR CONDITIONING, REFRIGERATION AND VARIOUS INDUSTRIAL APPLICATIONS

THE ONLY 100% MERCURY SWITCH EQUIPPED CONTROLS

[illegible]



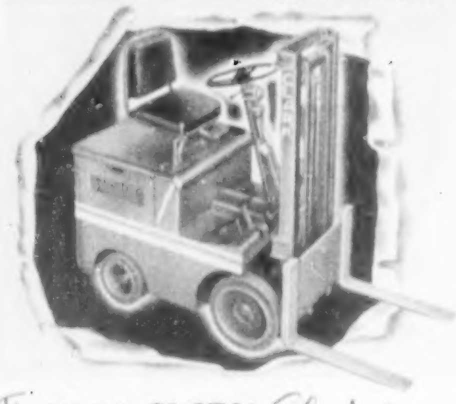
If you have a control problem involving the automatic control of pressure, temperature, liquid level, mechanical operations, etc., it will pay you to consult Mercoid's engineering staff—always at your service.

Write for Mercoid Catalog No. 700
It contains a lot of control information.

THE MERCOID CORPORATION · 4223 BELMONT AVE., CHICAGO 41 · ILL.

▼ BREVITY—Identify by IEN - 7807 if you write the maker ▼

TODAY'S BEST BUY-



The NEW CLARK Electric TRUCLOADER 1000-lb. Fork Truck

Here are the Reasons Why: [illegible]

- **Automatic Acceleration** [illegible]
- **Non-Plugging Controls** [illegible]
- **"Deadman" Safety Brake** [illegible]
- **Independent Hydraulic System** [illegible]
- **Greater Capacity** [illegible]
- **Easy To Service** [illegible]

[illegible]

[illegible] CLARK EQUIPMENT COMPANY [illegible]

▼ BREVITY—Identify by IEN - 7810 if you write the maker ▼

DEMAGNETIZING .. Electric coil neutralizes magnetic charge in work

Source: ELECTRAN MFG. CO.
4594-98 Elston Ave., Chicago 30, Ill.

Type H-2502 [illegible]

▼ BREVITY—Identify by IEN - 7811 if you write the maker ▼

PRESS .. Open back inclinable 4 in. standard stroke, 85 ton rating

Source: SALES SERVICE MACHINE TOOL CO.
2361-65 University Ave., St. Paul 4, Minn.

Built-in treads, [illegible]

The slide [illegible]

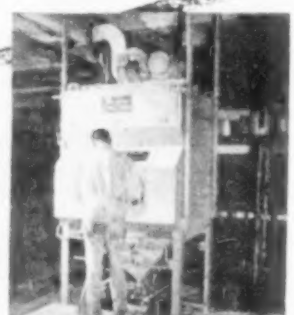
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 56

▼ BREVITY—Identify by IEN - 7813 if you write the maker ▼

At Fred Heinzelman & Sons
NEW YORK, N.Y.

Pangborn Hydro-Finish CUTS HAND POLISHING OF DIES 60%
reports Mr. J. L. Crosby, General Manager

Shown here [illegible]



Find out how HYDRO-FINISH can save you money

[illegible]

Pangborn
BLAST CLEANS CHEAPER
with the right equipment for every job

▼ REFER (?) indirectly by IEN-7815 if you write the maker ▼

NEW!

BOSTON gear
UNIVERSAL JOINTS
WITH INTERCHANGEABLE PARTS

Now Universally and Conveniently at Hand FROM STOCK
Through Boston Gear's Eighty Distributors

BOSTON gear stocks are right

BOSTON GEAR WORKS
63 HAYWARD ST., QUINCY 71, MASS.

▼ REFER (?) indirectly by IEN-7816 if you write the maker ▼

CANNON PLUGS
the Standard for Microphones

CANNON ELECTRIC

▼ REFER (?) indirectly by IEN-7817 if you write the maker ▼

Time to Discard
OLD-FASHIONED WAYS

Jacks ... pegs ... shims ... horses ... why fool with these obsolete methods of handling reels? DO IT THE MODERN, EFFICIENT WAY! Reel in wheel with cable, rope with

ROLL-A-REEL

Simple, strong, easily handled stand for your reels to save time and labor. Adjustable slots for wide variety of reel sizes.

Style A: 2,000 lbs. cap. 27.50
Style B: 4,000 lbs. cap. 75.00
F.O.B. Cincinnati

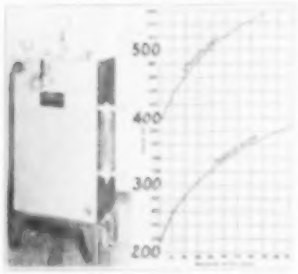
WRITE FOR DETAILS TODAY

ROLL-A-REEL
327 WEST FOURTH STREET
CINCINNATI 2, OHIO

▼ REFER (?) indirectly by IEN-7818 if you write the maker ▼

HEATING . . Electric boiler and heat transfer fluid for process use

Source: LIVINGSTONE ENGINEERING CO.
102 Grove St., Worcester 5, Mass.



Model 1000 (being sales now design of the company's Speedwaterz boilers for applications with a new fluid trade named Speedytherm. This fluid acts like water in operation and conducting. It can be carried in standard piping in installations intended for steam. It differs from steam in that its temperatures at given pressure are much higher. Thus at 40 lb. it is 405 deg. F. as compared to 287 deg. F. for saturated steam at the same pressure. At 100 lb. it is 500 deg. F. as compared to 329 deg. F. for steam.

The boiler employs two connected pressure chambers in one of which are submerged electrodes. Boiler pressure in this latter chamber pushes the water level down and into the connected chamber. The smaller submerged area over the electrodes gives the heating rate and a point of production is reached to balance demand.

Four sizes measure about 25 to 24 by 42 in. to 40 by 41 by 50 in. in overall clearance dimensions. Heat output varies 30,000 to 240,000 btu. per hour. Single-phase input at maximum load is 68 to 450 amp. on 220-volt supply. List price is 895 to $1,450 in the range of available sizes.

▼ REFER (?) indirectly by IEN-7819 if you write the maker ▼

THERMOSTAT . . Mercury column type employs magnet for final field setting

Source: H-B INSTRUMENT CO.
2631-35 Trenton Ave., Philadelphia 25, Pa.

Quick-Set is a new design of the company's Thermo-Regulator thermostat by which a final 10 deg. F. range can be adjusted for setting a knob on the top of the assembly. This operation follows fixed approximate adjustment by manipulating the mercury in the control stopper section. Turning the knob moves a magnet axially and this, in turn, repositions the mercury contact wire in the instrument in relation to the mercury.

Catalog 7325 for a heating cycle has a range from about 50 to 100 deg. F. It measures 14 in. in height by 4 in. in glass diameter, subassembly weighs 3 pounds. Catalog 7345 is the same except that it is for a cooling cycle and has a range from about 40 to about 90 deg. F. The contacts in each case are brought out to leads on the upper end to connect to one of the company's accessory electronic relays. Input is actuated the relay is about 2 milliamperes. The output contacts rate 30 amp. on 110-volt ac.

▼ REFER (?) indirectly by IEN-7820 if you write the maker ▼

INDEXING . . Hydraulic rotary table, 33 in. diameter with 6 or 12 stations

Source: DENISON ENGINEERING CO.
1158-62 Dublin Road, Columbus 16, Ohio

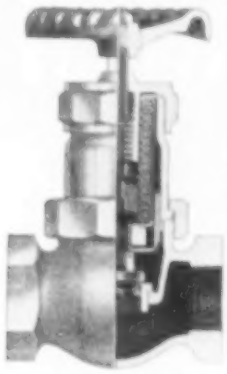
A work circle 21 in. in diameter is provided by this new table for mounting fixtures or jigs on its surface, and the design is intended for organic assembly. The table drives is by hydraulic pressure supplied by a pump incorporated with it in a separate installation in the spot close to which the table is located. The pressure operates a hydraulic motor with worm and gear connection to a driving motor. Speed can be selected at 10 and 20 indexing movements per minute.

The table was developed as a large assembly of the small, patented Denison H.S. 10000 rotary table. Its design is based on the company's hydraulic "Multiplex" system. It operates in and in step with the jigs or other fixtures accessory to produce advances so the table cannot be moved until a jig or spindle is in and on and at this action cannot be started until the table has indexed into correct position. Load the accessory in the index movement is within 002 inch. It is maintained by a lock that engages and disengages positively. A stop prevents accessory jigs to be specified to pass any number of stations from 1 to 5.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

▼ REFER (?) indirectly by IEN-7821 if you write the maker ▼

Losing liquids or gases by leakage?
PUT
SYLPHON PACKLESS VALVES
ON THE JOB!



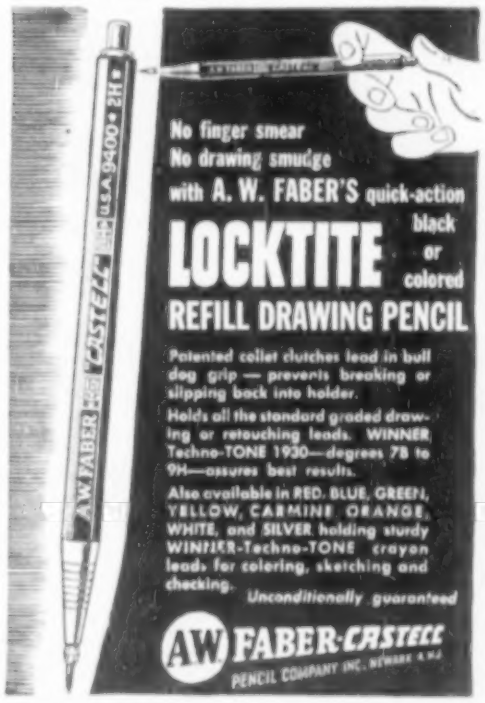
Fulton Sylphon Packless Valves can help you make important savings. Installed on pipe lines carrying oil, gasoline, or other volatile liquids or vapors, they stop even minute leaks—prevent waste, provide vacuum protection, guard against explosion fire and other damage.

A dual-ply, seamless Sylphon metal bellows replaces common packing-elements and cartridges of ordinary packed type valves.

Widely used in chemical plants, oil refineries, power plants, aboard ships. Many sizes and types available. Send for free Bulletin PS-813.

FULTON SYLPHON
DIVISION
ROBERTSHAW-FULTON CONTROLS CO. KNOXVILLE 4, TENN.
Temperature Controls · Balance Valves · Balance Assemblies

▼ REFER (?) indirectly by IEN-7822 if you write the maker ▼



▼ REFER (?) indirectly by IEN-7823 if you write the maker ▼

Famous AMPCO METALS start here!

Detroit Rocking Electric Furnaces deliver uniform, high-quality melts

Ampco Metals, Inc., of Milwaukee, has installed a pair of Detroit Rocking Electric Furnaces to melt and pour copper-base castings. ... Detroit Rocking Electric furnaces are positive, high-quality, economical units ... Ampco engineers are supervising pilot operations ... New ... melting methods ... and operations have many ...

For Ferrous Melting, Too

In ferrous melting, Detroit Electric Rocking Furnaces provide ...

DETROIT ELECTRIC FURNACE DIVISION
KUHLMAN ELECTRIC COMPANY
1050 26th St. • BAY CITY, MICHIGAN

▼ BRIEFITS—Identify by IEN-7824 if you write the maker ▼

. . . YOU'LL SAVE WITH A

Humphrey GAS UNIT HEATER

Complete heating units that save in many ways. They require no steam or water lines; no fuel storage; no boiler equipment; no fireman. Heat is generated within and forced to every corner of the room. *Write for complete specifications.*

GENERAL GAS LIGHT COMPANY
KALAMAZOO, MICHIGAN

▼ BRIEFITS—Identify by IEN-7825 if you write the maker ▼

FANS

for Every Air-Moving Job!

It will pay you to line up with America's most complete line of direct- and belt-drive Exhaust Fans, Air Circulators, Ceiling Fans, and Oscillators . . . built to give real, more service with less servicing. Select the fans you need from

See your electrical contractor or write today for your free guide to the selection of Exhaust and Ventilating Equipment, Bulletin No. 558.

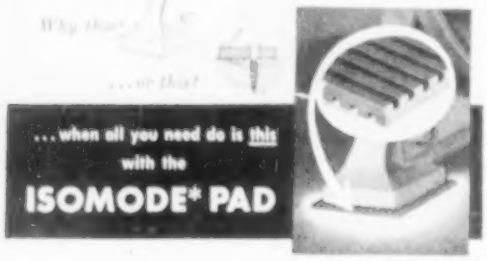
THE EMERSON ELECTRIC MFG. CO.
St. Louis 21, Mo.

EMERSON MOTORS • FANS ELECTRIC APPLIANCES

▼ BRIEFITS—Identify by IEN-7826 if you write the maker ▼

AVOID NEEDLESS COSTS

in installing machines!



You can save money two ways with Isomode Pads.

(1) The installation costs. Even a single 1/16-inch thick pad of this low cost, oil and water resistant material has proved economical in thousands of cases. Most machines need no bolting to floor or special foundations. Simply set pad, be required size, and install under machine feet.

(2) The operating costs. These resilient pads by absorbing vibration and shock, eliminate noise transmission and long expensive "on site" repairs. Pads damaged and worn, replace more quickly and cheaply than permanent mounts.

Isomode Pad, with molded holes, allows 10 equipment feet to rest securely on pad. Pad, in compression, fits snugly around feet. Write for bulletin 457.

*Trade Mark Reg. U.S. Pat. Off.

THE MB MANUFACTURING COMPANY, INC.
1064 State St., New Haven 11, Conn.

▼ BRIEFITS—Identify by IEN-7827 if you write the maker ▼

MOTOR . . Geared head ac. 1/2 to 15 hp., splash proof design

Source: STERLING ELECTRIC MOTORS INC.
5199-03 Telegraph Road, Los Angeles 22, Calif.

New design in the company's five-speed line of geared-head electric motors includes a chevron seal on the shaft at the rear end. Integral baffles in the end bracket air-intake opening and a water-tight terminal box keep splashing water can-not get into the interior. At the same time there is free opening for passage of cooling air.

The motor is available for operation on 60-cycle 208, 220/440 and 550-volt 2 and 3 phase ac. on 20-deg. C temperature rise. It is in ½ to 15-hp. ratings for motor speeds from 600 to 1,800 overall. Corresponding overall output speed range in single and double-reduction assembly is 20 to 780 rpm. NEMA frame sizes are No. 208 to No. 826.

Shafts are mounted in ball bearings equipped with lubricant seals. The alloy-steel gears have helical teeth. Lubrication is by splash in the sealed housing. Mounting is in any position.

▼ BRIEFITS—Identify by IEN-7828 if you write the maker ▼

ROCK DRILLING . . Carbide tipped for portable tool rotation in masonry

Source: TILDEN TOOL MFG. CO.
1993-7 N. Fair Oaks Ave., Pasadena 3, Calif.

Sizes range from 5/8 to 1 in. in the new drill illustrated. The design is characterized by the omission of any center point on the flat cutting end. Operating speed range between 150 and 1,000 rpm. The shank taper is of wear fast.

▼ BRIEFITS—Identify by IEN-7829 if you write the maker ▼

PACKAGING . . Plastic containers, rigid, flexible, clear, opaque, colored

Source: CELLUPLASTIC CORP.
48-52 Avenue L, Newark 5, N. J.

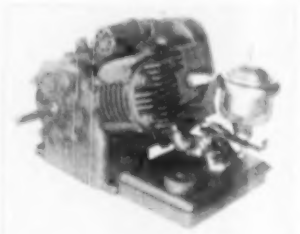
Twenty-five new stock sizes have been added to the company's line of plastic containers previously described (IEN 11621-40). The new sizes include 5/16 with sizes from ⅝ by 1¾ in. to 1½ by 5 inches. Avail-able materials include rigid plastics, clear and colored opaque, polyethylene and the flexible type of container sealable by thermoplastic bonding.

Clearite is the trade name for a line of the resins that can be packaged in the containers to give 3D storage and small parts-bins from bottles and beverages to commercial products and parts for hot foods, stand the use of the cooking pots.

▼ BRIEFITS—Identify by IEN-7830 if you write the maker ▼

ENGINE . . Single cylinder unit, air cooled, ratings 1 and 1½ hp.

Source: CONTINENTAL MOTORS CORP.
624-8 Ford Bldg., Detroit 26, Mich.



Two new sizes have been added to the company's previously developed line of small air-cooled gasoline engines. One rates ¾ to 1 hp. The other rates 1½ hp. Both are vertical, in general straight, engine with crankcase, carburetor and (non-rotary) fuel tank. Standard equipment includes the choice. Wico flywheel magneto, blower housing, muffler, air-cleaner, governor, operating pulley with rope and handle.

Bore and stroke on both models are 2 inches. Displacement is 2.1 cu. in. and compression ratio is 5.2 to 1. The power takeoff end of the crankshaft is equipped with ball bearings. The connecting rod is a bronze bearing with [illegible]. The crankshaft is of [illegible] steel. D[illegible]

▼ BRIEFITS—Identify by IEN-7831 if you write the maker ▼

Can you erect your SCAFFOLDS AS EASILY AS THIS?

STEP 1—Hold cam lever in horizontal position and slide into panel socket

STEP 2—Turn cam lever down and brace is securely locked to panel

The two illustrations show how quickly and easily you can attach braces to panels by means of the ADVANCE patented, self-contained Cam Lock. The braces function over every angle to a complete 360° and provide a solid scaffold free from sway.

ADVANCE tubular steel scaffolds also feature the exclusive, self-contained stack lock for positively locking each panel tier to the one below. Investigate ADVANCE before you buy. Write for literature and name of your local jobber.

BEAVER ART METAL CORP.
1201 Factory Ave., Ellwood City, Pa.

Makers of ADVANCE Steel Scaffolds

▼ BRIEFITS—Identify by IEN-7832 if you write the maker ▼

Fastener Solves Problem of Liquid Seepage

Liquid seepage around bolts and rivets often presents a difficult problem to the designer and maintenance man alike. But in many cases seepage can be eliminated by a simple change over to ESNA Elastic Stop Nuts.

Dependable, self-locking Elastic Stop Nuts make the easiest, simplest design changes without changing the assembly or manufacture procedure—without even the other figure of merit. Built to vibration-proof, self-locking, quality Elastic Stop Nuts are applied by bolts of steel, wood, aluminum and concrete. The tapered Bell Elastic Collar grips threads, seals the threads and locks which are not regardless of the number of thrust.

On machine tools, household appliances, portable tools, automotive and critical equipment Elastic Stop Nuts are used for locking purposes created by the effects of vibration by addition Elastic Stop Nut solve problems of: (1) preventing bolts by pressure bolt to pressure (2) [illegible] and maintaining proper spring loaded adjustments. (3) protecting bolt threads against corrosion (4) providing the feature of re-usability without upset design changes.

For a free bulletin on the uses of Elastic Stop Nuts write to Elastic Stop Nut Corporation of America, Union, N. J.

▼ BRIEFITS—Identify by IEN-7833 if you write the maker ▼

are you caught in your own traps?

Does your heating system fail to kick out as much heat as you kick in for fuel? Perhaps faulty or worn out traps are the cause of your troubles.

If so, it will pay you to check with Dunham—leading manufacturer of radiator, thermostatic, float and thermostatic, closed float, inverted bucket and vento traps. Dunham's 47 years of leadership in the heating equipment field stand behind these products . . . assuring you long and efficient service. Write today for further information.

DUNHAM
HEATING MEANS BETTER HEATING

C. A. Dunham Co.,
400 W. Madison St., Chicago 6, Ill.
In Canada:
C. A. Dunham Co., Ltd., Toronto.
In Europe:
C. A. Dunham Co., Ltd., London.

All Makers of These And All Other Products Are Listed In ENGINEERS REGISTER — Descriptions — Ratings — See Page 60

DIRECT—Identify by IEN - 7834 if you write the maker

STURDY, CONVENIENT, LOW-COST JIFFY ALL METAL CABINETS

FOR SMALL PARTS, DRILLS, TOOLS, CARBIDE TIPS AND MOUNTED POINTS

32 DRAWER UNIT • DIVIDES INTO 96 COMPARTMENTS **$8.95**

POSTAGE PAID

64 DRAWER UNIT • DIVIDES INTO 192 COMPARTMENTS **$15.95**

Rustproof Aluminum Drawers

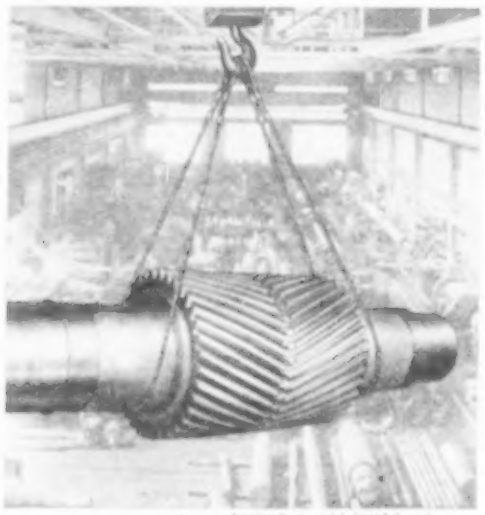
Complete set of Dividers and Index Cards supplied

APPROXIMATE SIZES
DRAWER 1¼" Deep 2¾" Wide 6" Long
32 DRAWER UNIT 6" Deep 12¼" Wide 15¼" High
64 DRAWER UNIT 6" Deep 25¼" Wide 15¼" High

Split welded steel cabinet, stone finish drawer guides, enamel finish, and steel compleme construction. Drawers in cabinet with finish. The best outright drawer steel cabinet for convenient storage of small parts, drills, tools, carbide tips, mounted points or assembly bench work at work a low cost. Order now for immediate delivery. Send check or money order or send complete shipped on receipt of purchase order.

KAYTEE PRODUCTS
DEPT. L - BOX 555 - CANTON, OHIO

DIRECT—Identify by IEN - 7835 if you write the maker



Forging Product of A. Finkl & Sons Co.

How much is safe handling worth?

Apply this formula: THE SUM OF A DROPPED LOAD IS EQUAL TO ITS OWN VALUE AND THE VALUE OF WHAT'S BELOW IT—and you can estimate the worth of safe handling of any load.

• Here for example we have 15,000 pounds of finished machined forging representing hundreds of man and machine hours, costly material, design and engineering time. Added to it's a big investment. If it fell it would harm itself beyond repair and damage or destroy production machinery. Literally, put a big *DENT* in profits.

Worse still—it could seriously injure workmen. For these reasons good, safe slings—**ACCO REGISTERED WIRE ROPE SLINGS**—are tools worthy of top consideration of both safety and production men.

ACCO Registered Wire Rope Slings provide positive safety factors of 5 to 1. They are factory-made, proof tested with a load double the rated capacity, then registered. This Register certifies that only Preformed Improved Plow Steel wire is used and that the ACCO LOC Splice will develop 100% of the catalog strength of the wire rope. Only ACCO-LOC has 2 collars on each splice to an extra safety factor.

Write today for your free copy of the ACCO Registered Wire Rope Slings "SAFE CAPACITIES" card, which includes a guide for discarding worn-out wire rope slings.

MEMBER THE NATIONAL SAFETY COUNCIL

Allen Park, Pa. Chicago Detroit Houston Los Angeles New York Philadelphia Pittsburgh San Francisco Bridgeport, Conn.

ACCO

AMERICAN CHAIN & CABLE
WIRE ROPE SLING DEPARTMENT

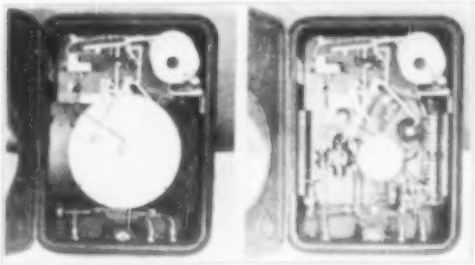
Registered WIRE ROPE SLINGS

In Business for Your Safety

DIRECT—Identify by IEN - 7837 if you write the maker

CONTROL . . Cam actuated recorder for pressure, temperature in a cycle

Source: GOTHAM INSTRUMENT DIV.
149 Wooster St., 4th Floor, New York 12, N. Y.



Adjustable cams are a part of the equipment a new Program Recorder-Controller in which a pendant set of cams can be set to a sequence of required conditions such as turn of time, length of "hold", rising or falling characteristic. The setting temperature or pressure is set by turning a knob. The cam assembly is in the upper right hand corner of the instrument housing. It shows through an opening in the front cover with the chart when the cover is closed.

The chart mounted on it, is driven by the standard 12 in. housing. Temperature and pressure mechanisms are standard-ordered separately and can be interchanged in the field. The instrument can be modified to control the variation of one time, to repeat automatically over other completion of a cycle, to stop at any critical point in a cycle, to repeat and to initiate external events or means of signals.

DIRECT—Identify by IEN - 7838 if you write the maker

THREADING . . Hand operated die cuts clean threads in graphite pipe

Source: NATIONAL CARBON DIV.
30 E. 42nd St., Room 308, New York 17, N. Y.

Karbate graphite pipe employed in corrosive handling acids and corrosive fluids can be threaded in the field by application of a new hand die the company has developed to replace the need for a lathe. The tool carries a pilot that rides inside and centers the pipe. It cuts a clean sharp thread in the pipe.

DIRECT—Identify by IEN - 7839 if you write the maker

SHEARING . . Portable hydraulic tool rates mild steel rod to 1 in. diameter

Source: MANCO MFG. CO.
Grove & West, Bradley, Ill.

New design based on Model D-20 for foot actuation has been added to the company's hand operated hydraulic shear, previously described IEN-4234-D. Both tools are intended to cut hot stock, chain, wire rope and solid shapes such as hexagons, squares. The hydraulic cutting tool in the new design consists of a flexible tube to a power unit that can be foot actuated for connection to a pump kit. One of motor operated with the foot motor. Pressure hose, 2 ft. connecting cables is $20.75 list.

DIRECT—Identify by IEN - 7840 if you write the maker

LIGHTING . . Vapor proof holder takes 60 or 75-watt lamp in two sizes

Source: MINES EQUIPMENT DIV.
4232-37 Clayton Ave., St. Louis 10, Mo.

Neoprene is molded in three one layer. Tough, jacket fits tight to the new holder and has a permanently reinforced to a specified weight of molded-on cord. The fastening is made a metal order guard and an inner shock protected from cords to secure a tight and safe, no cord pulled accidentally.

Length is 13½ inches. Diameter clamped is 4½ inches. Weight is about 2½ pounds. The holder is recommended to affect by use. It includes cord and socket.

All Makes of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

DIRECT—Identify by IEN - 7841 if you write the maker

Deliver CLEAN DRY AIR *by this Exclusive Method*

No MOVING PARTS No FILTERS TO REPLACE No GUESSWORK

CMD TEXTITE AIR SEPARATORS

The essentially rated capacities of CMD Textite Air Separators assure ample C.F.M. volume to clean air and thoroughly dry it. Size machines should be installed at or near point of use. Four sizes from 25 C.F.M. to 200 C.F.M. inclusive. For bulletin and complete technical data

Address Dept. 5 IEN

CHICAGO MANUFACTURING & DISTRIBUTING CO.
1928 W. 46th St., Chicago 9, Ill.

DIRECT—Identify by IEN - 7842 if you write the maker

LAMSON UTILITY CONVEYOR
It's Portable...Adjustable...Reversible

Operates from horizontal position up to a maximum of 35 degrees and down to a maximum of 18 degrees. Length—11 ft. Belt—14 in. wide, packages wider than belt can be handled. Speed—60 ft. per minute. Capacity—maximum free load, 100 lbs., or 600 lbs. per minute. ½ H.P. single phase, 60 cycle, 110 Volt, geared head motor with 24 ft. connecting cord. Supplied with roller chute or roller chute.

Only $295.00 F.O.B. Syracuse

Send order direct or write for free descriptive folder

LAMSON CORPORATION
550 LAMSON ST. SYRACUSE, N. Y.

DIRECT—Identify by IEN - 7843 if you write the maker

SEND FOR YOURS TODAY!

HARPER COMPUTER of corrosion resistance

Gives you a quick, easy method of determining what metal alloys to use in connection with 143 different corrosive agents. Ideal for metal-targets, product designers, engineers, chemists, purchasing agents. Sized to fit your pocket. Developed by The H. M. Harper Co., America's leading specialist in non-ferrous and stainless steel fastenings.

FREE
MAIL COUPON TODAY

THE H. M. HARPER CO.

The H. M. Harper Company
[illegible] Lehigh Avenue, Morton Grove, Ill.
Please send me free copy of the Harper Computer of Corrosion Resistance.

Name
Company
Address
City State

IEN-7844

SPRAYING SYSTEMS

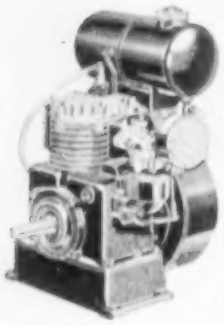
Spray Nozzles

used everywhere in industry for BETTER SPRAYING at LOWER COST . . .

Spraying Systems Co. engineered spray nozzles are cutting production costs everywhere in industry . . . by providing better spray equipment performance and insuring better processing or equipment operation. Get the facts today by writing for General Catalog 22 or Pneumatic Atomizing Catalog 21.

SPRAYING SYSTEMS CO.
Engineers and Manufacturers
3388 RANDOLPH ST. • BELLWOOD, ILLINOIS
Suburb of Chicago

IEN-7845



Four-Cycle
Air-Cooled

KOHLER ENGINES

- Compact
- Quick-Starting
- Reliable

MODEL K7-4 [illegible]

POWER FOR:
Farm Equipment
Garden Tractors
Water Pumps
Concrete Mixers
Construction Equipment
Conveyors
Rollers
Compressors
Sprayers
Motor Bikes
Coasters
And other uses

Kohler Engines are designed, engineered and built to give the most dependable, economical service that has won world-wide acceptance for Kohler Electric Plants in construction and other industries. Made in several sizes. They are suited to a wide range of uses. Kohler engineers will gladly assist in working out applications for your particular requirements. Write for information. Dept. W, Kohler Co., Kohler, Wisconsin. Established 1873.

KOHLER OF KOHLER
Plumbing Fixtures • Heating Equipment • Electric Plants • Air-cooled Engines

IEN-7846

Oil Resistant Rubber Parts

• Featuring LONG LIFE and MINIMUM SWELL, patented silicone, methyl tolyl and methyl phenyl silicone compounds now are available for use in contact with hot oil and gasoline, resistant rubber compounds. These compounds have been developed especially to resist the chemical action of petroleum products and their deterioration as well as mechanical and environmental hazards.

The new compounds can be fabricated into practically parts subjected by such applications as fuel lines, fuel valves, fuel injection components, etc.

STALWART [illegible]

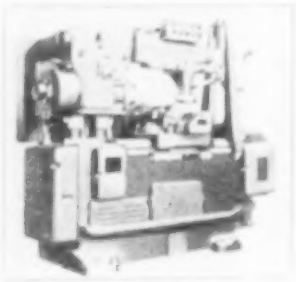
WRITE FOR CATALOG

THE STALWART RUBBER CO.
[illegible] NORTHFIELD RD., BEDFORD, OHIO
CUSTOM RUBBER FABRICATORS

IEN-7847

GEAR CUTTING . . Hobbing machine for spur and helical gears and splines

Source: BARBER-COLMAN CO.
1212-16 Rock St., Rockford, Ill.



New design of the company's No. 10-B Universal hobbing machine [illegible] The machine [illegible] Bulletin [illegible]

IEN-7848

PUMP . . Lever operated hydraulic, three sizes for pressure to 6,000 lb.

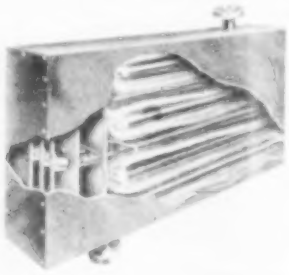
Source: BLACKHAWK MFG. CO.
5323-27 W. Rogers St., Milwaukee 1, Wis.

Power-Packer Jr. is a new hydraulic pump operated manually by [illegible] Three sizes in the line supply [illegible] operating efficiency at the lever and a corresponding [illegible] pounds. Displacement per stroke is [illegible] The reservoir holds [illegible] and a breather [illegible]

IEN-7849

HEATING . . Oil-electric exchanger heats processing oil to 600 deg. F.

Source: HYNES ELECTRIC HEATING & PROCESS DIV.
1847 W. Sedgley Ave., Philadelphia 32, Pa.



Improved design [illegible] Construction [illegible]

All Makes of These And All Other Products Are Listed In THOMAS' REGISTER . . . Ownership . . . Ratings . . . See Page 56

IEN-7850

No other

COPYING PROCESS

offers you the Economy of

OZALID!

WHAT IS OZALID?

FREE [illegible]

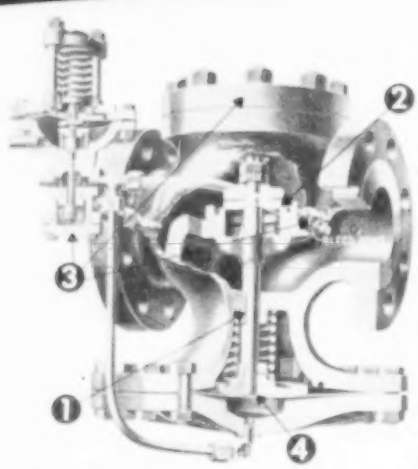
Cut Copying Costs . . . Use OZALID!

A DIVISION OF GENERAL ANILINE AND FILM CORPORATION
"FROM RESEARCH TO REALITY"

IEN-7851

Here's Why SPENCE REGULATORS

CUT COSTS . . .
REDUCE MAINTENANCE



Thousands of installations throughout the country have proved that Spence Pilot-Operated Regulators provide *dependable, trouble-free* pressure and temperature control year in, year out. Here are a few of the many Spence features that save you money — help keep *maintenance at a minimum.*

1. **PACKLESS CONSTRUCTION** of all Spence main valves and most pilots *eliminates the need for closely fitted parts* that may stick or bind due to uneven expansion or foreign matter.
2. **DURABLE SECO METAL SEATS AND DISCS** resist wiredrawing. More than 20 years of experience with SECO Metal *has failed to produce one case where it has been cut by steam.*
3. **EASY TO CLEAN WITHOUT DISMANTLING** — The seat and disc of the main valve and pilot can be cleaned and any working part removed *without taking the main valve out of the line.*
4. **LONG-LIFE METAL DIAPHRAGMS,** under usual conditions, never require replacement. The durable spring in the Spence Regulator operates at low unit stress . . . *out of the path of the steam* or other fluid flowing through the valve.

FREE BULLETIN NO. 4000 gives complete data . . . contains full color, fully illustrated description of the operating cycle of a Spence Regulator.

Spence

SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

IEN - 7853

IEN - 7854

IEN - 7855

- Accurate velocity readings, unfailingly convergent even at 2" dia. free area, instantly indicated in feet per minute.
- Telescopic handle facilitates positioning of instrument away from the observer for readings in hard to reach locations, or where the observer's body would interfere with the normal air movement.
- Unique slide lock makes possible to take note reading when desired and the lock is released, an indispensable feature where instrument is used to position instrument away from the observer.
- Magnetic damper steadies note movement and avoids the magnification occurring in air velocities thus giving a true average velocity reading.
- Convenient zero adjustment by means of adjusting screw in center of front grill. Coin may be used in turn screw.
- Leather case is furnished as standard equipment for added protection when the instrument is not in use and for convenience when carrying it in the pocket.

COMPLETE, in leather case . . . $32.00

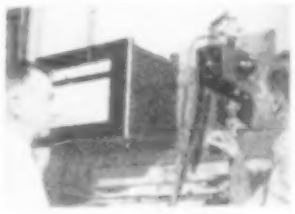
Write for Leather Case or Order Directly

BACHARACH Industrial Instrument Co.
7000 BENNETT STREET • • PITTSBURGH 8, PA.

IEN - 7856

TESTING . . Photoelectric instrument records the turbidity in a liquid

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



IEN - 7857

CONTAINER . . Hackney steel drums with permanent polyethylene lining

Source: SCHORI PROCESS DIV.
8-13 43rd Road, Long Island City 1, N. Y.

Corrosion proof and flexible

IEN - 7858

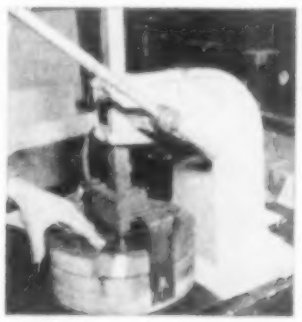
METAL TREATING . . Anodizing tank for aluminum, sizes to specification

Source: F. H. LANGSENKAMP CO.
225-29 E. South St., Indianapolis 4, Ind.

IEN - 7859

PRESS . . Hand operated arbor unit is fitted with heated head for plastics

Source: DAKE ENGINE CO.
614 Seventh St., Grand Haven, Mich.



IEN - 7860

IEN - 7861

YARNALL WARING COMPANY
122 Mermaid Ave., Phila. 18, Pa.

YARWAY BLOW-OFF VALVES

IEN - 7862

BREEZIT—Identify by IEN-7863 if you write the maker

Heat control problem that defeated other thermostats

solved by Thermoswitch unit

THE MATCHLESS-COVERT HOME PASTEURIZER [illegible] THERMOSWITCH [illegible] Write for further details.

TENRAL INCORPORATED
[illegible] Street, Auburn, Mass.
Temperature Control Engineers

Fenwal

APPLIANCE-TYPE
THERMOSWITCH
Reg. U. S. Patent Office
SENSITIVE . . . *but only to heat*

BREEZIT—Identify by IEN-7864 if you write the maker

IT'S ALWAYS RIGHT
and right on schedule

. . . with wiring materials via Graybar

[illegible]

EXPERT HELP WHEN YOU NEED IT

[illegible]

One order for everything

[illegible]

Free samples of tape

[illegible]

You get the best of everything electrical via Graybar

IN OVER 100 PRINCIPAL CITIES

Send coupon for FREE tape samples

Graybar Electric Co., Inc., Graybar Building, New York 17, N. Y.

Please send me samples of Scotch and Fish tapes as checked.

I want to know [illegible]

Name

Company

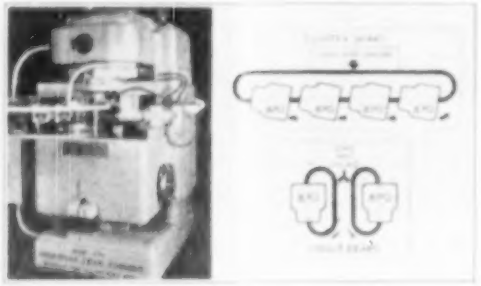
Address

City Zone State

BREEZIT—Identify by IEN-7866 if you write the maker

GEAR CUTTING . . Shaving machine finishes work carried in a conveyor

Source: MICHIGAN TOOL CO.
7169-73 E. McNichols Road, Detroit 12, Mich.



New assembly [illegible]

The conveyor [illegible]

BREEZIT—Identify by IEN-7867 if you write the maker

CUTTING . . Utility knife mounts razor blade in aluminum handle

Source: GRIFFIN MFG. CO.
189-93 Lyndhurst St., Rochester 5, N. Y.

List price is $1.00 for this new No. 11 Griffhold knife in which a standard Durham double-edge razor blade is mounted in cutting position or retracted [illegible]

BREEZIT—Identify by IEN-7868 if you write the maker

LIGHTING . . Safety retainer for fluorescent lamps, clamps on socket

Source: DEN-EL EQUIPMENT CO.
30 Church St., Room 438, New York 7, N. Y.

Four models are included in a new fluorescent safety retainers for fluorescent lamps of which the S-T-11 for tubes in series is shown in the illustration. The other models include a unit for 20 (11) Rapid tubes, one [illegible]

For 100 watt tubes and one that clamps to a [illegible] for T-12 tubes. [illegible] on this retainer is provided [illegible] Net price is $17 to $20 per fluorescent fixture [illegible]

BREEZIT—Identify by IEN-7869 if you write the maker

CUTTING . . Abrasive disc for castings, plastics, brick, tile

Source: BAY STATE ABRASIVE PRODUCTS CO.
10-14 Union St., Westboro, Mass.

Nylon cord [illegible]

The abrasive [illegible]

All Makers of Items You Use—Our Products Are Used by Others—Reference [illegible] Page 6

BREEZIT—Identify by IEN-7870 if you write the maker

MOTO-TRUC
18-Inch
More Power!

MOTORIZED BATTERY OPERATED RIDE-A-TYPE TRUCK

Increases Storage Space by Palletizing and Stacking in NARROWER AISLES.

Moto-Truc has been building Ride-A-Type trucks for more than four years. The Telescopic Hi-Lift model, as shown, has been in successful operation over two years, and is good for MANY more.

Easy grip roller type control handle.

Lifting speed: 12 FPM, with full load.

Power cost is amazingly low.

Write for Bulletin No. 50, showing complete line of Moto-Truc.

PALLET TRUCKS
HI-LIFT TRUCKS
PLATFORM TRUCKS

The MOTO-TRUC Co.
1951 E. 59th Street
CLEVELAND 3, OHIO.
ORIGINATORS OF MOTORIZED HAND TRUCKS

BREEZIT—Identify by IEN-7871 if you write the maker

Need Rails?

You'll get them FASTER FROM FOSTER
ONE TON OR A THOUSAND

NEW or RELAYING
Largest Stocks in U. S. A.

Send for FREE Foster Track Catalog

STEEL SHEET PILING • PIPE & PIPE FABRICATION • RAILS • TRACK ACCESSORIES • WIRE ROPE

L. B. FOSTER CO.
NEW YORK 7, N. Y. CHICAGO 4, ILL. PITTSBURGH 30, PA. HOUSTON 2, TEX.

BREEZIT—Identify by IEN-7872 if you write the maker

"Catsup ON YOUR ICE CREAM?"

Just because you used catsup on your steak, the waiter shouldn't assume you put it on the rest of your dinner too!

And just because your bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for all bearings on that machine. In many cases it isn't.

OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately cost very little.

Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

Write for free Price Guide Catalog

GITS BROS. MFG. CO.
1854 S. Kilbourn Ave. • Chicago 23, Ill.

▼ REALITY—Identify by IEN-7873 if you write the maker ▼

ALOYCO

introduces a proven ACID SHIELD VALVE

2000#—All Gate Valve. Size range ½"-12"

Same design as regular 2000# with acid shield added.

ALOYCO ACID SHIELDS meet rigid plant safety codes by adequately protecting the operator's face, hands and upper body from hazardous liquids without interfering with effective operation and maintenance of valves.

The stainless steel shield, being an integral part of the valve, does not need to be removed for inspection or repacking. Does not rise with stem—affords same degree of protection whether open or closed. All valves ordered with Aloyco Acid Shields are supplied with stainless steel yoke bushings and nuts and Teflon stem packing. The initial cost of these features is nominal and maintenance savings are substantial. Available in Aloyco 20, 18-8S, 18-8SMo, Monel, Nickel and other alloys.

Send For Information

ALLOY STEEL PRODUCTS CO., Inc.
1311 W. Elizabeth Ave., Linden, New Jersey

Atlanta • Chicago • Houston • Los Angeles • New York • Pittsburgh • Washington

▼ REALITY—Identify by IEN-7874 if you write the maker ▼

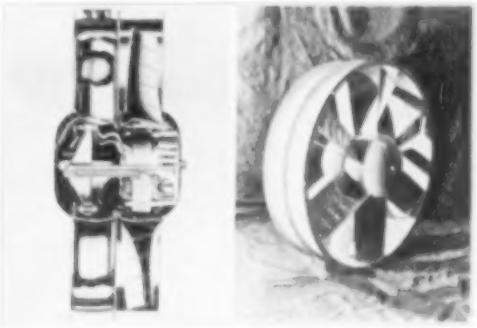
Newark Wire Cloth COMPANY

342 VERONA AVENUE • NEWARK 4, N. J.

▼ REALITY—Identify by IEN-7876 if you write the maker ▼

VENTILATING . . Motor driven fan mounts in duct, 30 to 60 in. sizes

Source: MOORE CO.
802 S. Missouri St., Marceline, Mo.



Hub mounted motor is this new Moore 10 type of vaneaxial fan. Fan is removed from motor. Design is clear. The motor setting normally on the rotor is mounted in marine stabilizer position and the part that actually rotates surrounds it. The permanent motor is protected by covers. The fan blades flanged on the rotor. The assembly employs two bearings for radial and thrust loading. Both are permanently lubricated and sealed. The complete unit includes a mounting ring for duct and a set of flanged supporting frames on the air intake side.

Five sizes in the line range from 30 in. diameter to 60 in. in 5-in. increments. Motors are fully or semi-enclosed, depending on the design. Two designs include standard and high capacity units which differ in the motor rating. Motor is not included. The standard unit rates 12,000 to 15,000 cfm on the free delivery at 250 cfm. The high-capacity unit rates 15,000 to 20,000 cfm. Size is 230 cpm. Weights are 140 to 300 lb. and 190 to 320 pounds.

Mounting can be made in any position. The fact that the motor is mounted on marine stabilizer is meant to isolate the exterior parts to handle non-fed continuously and from an temperatures for operating 140 deg. F. with the fan rotating at 140 deg. F. when it is standing. Details, CIRCLE 24 below, provide dimensional data information.

▼ REALITY—Identify by IEN-7877 if you write the maker ▼

EXTRACTING . . Metal disintegrator drills into broken tool, hard steel

Source: CLINTON MACHINE CO.
49 Clinton St., Clinton, Mich.

Metalmaster Junior, having at $147.50 is a low cost in the company's line of metal disintegrators. The unit supplies the voltage current and a 50-amperage arc to a hollow electrode to strike rapidly recurring arcs with the work. At the same time it has a hammer ram to a resilient mirror for gent through the electrode. The result is formation of small particles from the work that disintegrate quickly away as the gun increases in depth.

Assembly is on the chuck on a sliding machine to provide a convenient means for vertical adjustment. Housing height is 8 inches. There is ¾ in. of stroke by foot movement in the head. Weight is 21 pounds. Hose can be lifted with tackle and to 4 in. in diameter to permit working deep cuts.

▼ REALITY—Identify by IEN-7878 if you write the maker ▼

HEATING . . Gas fired space unit rates 25,000 btu. per hr., 410 cfm.

Source: REZNOR MFG. CO.
100 James St., Mercer, Pa.

Cadet designation for small size in the company's line of low-equipped gas-fired unit heaters. Overall dimensions are about 10 by 12 by 22 inches. The design is for overhead suspension. The fan motor operates at two speeds, the high speed being suited particularly for summer operation in air conditioning without heating.

The gas flow into a combustion chamber and products of combustion pass upward through metal heat-exchanger tubes around which the air for delivery is driven by the fan. Temperature 12 in. Fan. There is a flue connection from the top of the unit. The assembly includes the required controls to maintain a normal temperature in a room of specified size.

Catalog L-30, 20 pages, describes, illustrates and provides specifications of the company's complete line of gas-fired units for the heating and for commercial installations.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ REALITY—Identify by IEN-7879 if you write the maker ▼

Free NEW G-E MAGNET WIRE DATA BOOK

Now for the first time in one complete manual

FORMEX Magnet Wires • DELTABESTON Magnet Wires

For jobs involving specifications and uses of magnet wire, you need this new General Electric magnet wire manual.

Packed with helpful, hard-to-get information, this 24-page book clearly and concisely covers all types of General Electric magnet wires—G-E Formex for Class A applications, temperatures up to 105 C., and G-E Deltabeston, both for Class B applications, temperatures up to 125 C., and for Class H applications, temperatures up to 180 C.

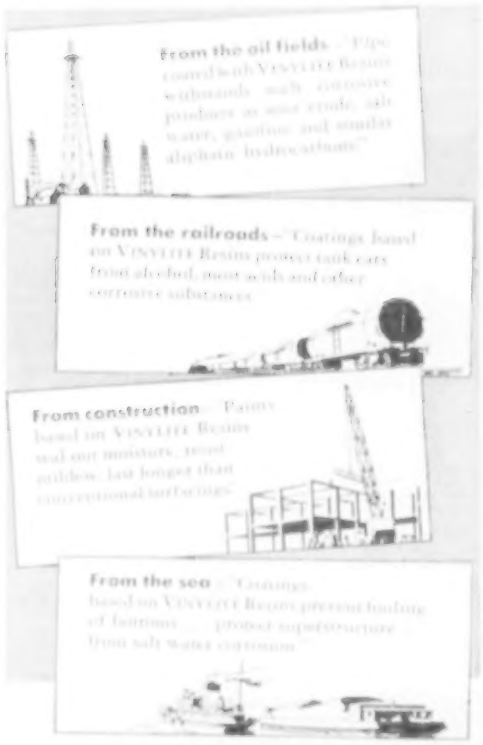
Here are just a few of the subjects covered by the G-E magnet wire manual:

- Properties of enamel and asbestos-insulated magnet wires
- Tables of types and sizes of stock magnet wires
- Application procedures
- Information on special glass and silicone-impregnated insulations
- Tables showing electrical specifications, dimensions, weights and other pertinent specification data

Just drop a copy of this hard-bound reference manual on General Electric magnet wires, write to Section M19-816, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC

▼ REALITY—Identify by IEN-7880 if you write the maker ▼



Reasons aplenty for you to profit from coatings based on VINYLITE Resins

Why this chorus of praise for VINYLITE Brand Resins? *Because these materials offer a unique combination of physical and chemical properties.* They are easily applied by conventional equipment—and they stay put for years and years on iron, steel, aluminum, concrete and masonry. Applied on flat sheet they stand up under forming, drawing or stamping without cracking, wrinkling or losing their tenacious grip. Odorless, tasteless, non-toxic, they are highly resistant to almost all chemicals, salt, grease, oils and alkalis. They will not support combustion.

Remember there is a coating based on VINYLITE Resins for almost every industrial application. Bakelite's engineers will see that you get the formulations that meets your requirements exactly. Write Dept. IM-1

Representative Product Coatings Cited: Phenolic Coatings

Vinylite BRAND **RESINS** — BAKELITE DIVISION

BAKELITE DIVISION
Union Carbide and Carbon Corporation
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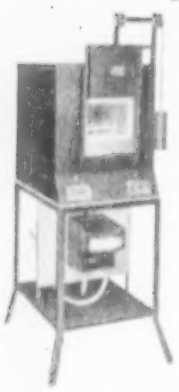
IEN - 7882

IEN - 7883



Identical Results Automatically HEAT after HEAT

HUPPERT Model 12HTFM FURNACE

Precision Huppert temperature control provides almost accurate heat after heat at sets setting up to 2300°. A Heavy-duty steel construction, wall insulation and Kanthal elements guarantee years of continuous service and low cost operation on laboratory and small batch production. Removable portables, has rapid counterweighted swing type door for handling all sizes. All contain fully enclosed LD. 8" x 8" x 17" (2½" thick all) overall.

LD. 12" x 20" x 18" 220 V. AC with max. load 8 K.W. max. load 1 K.W.

Write for literature and consult us on furnace requirements.

TABLE MODELS — $425.00

K. H. HUPPERT CO.
4856 Cottage Grove Ave.
Chicago 37, Illinois

IEN - 7884

IEN - 7885

STEEL . . Chrome nickel stainless can be worked, in tubes to 1⅝ inch

Source: CARPENTER STEEL CO.
121-5 Springfield Road, Union, N. J.

Chromium is the part — 18 to 20 per cent — nickel is 8 to 10 per cent and carbon is 0.08 per cent, at most. The material has a tensile strength of 75,000 psi, is available in the form of round, shell, square, or rectangular tubing in 1⅝ inch. The steel is supplied for the above tubing in annealed and as pickled finish, in Rolled Shell, requires no more fabricating, bending, or welding. An example is the body of a pressure cooker, or tubing in the cigarette.

The steel can be brazed and welded after cold working. It can be spot, mash, extended arc, or carbon particularly for use in manufacture of Stainless or Carpenter Stainless with Fast Blow connections the tubing. Low with Fast Blow connections the tubing. The steel resists corrosion, other cold working. It is resistant to attack by acids and to most corrosion. Chromium and Ni will not react with formic, acetic, and other halogen acids.

IEN - 7886

HEATING . . Petroleum gas torch feeds from replaceable gas cartridge

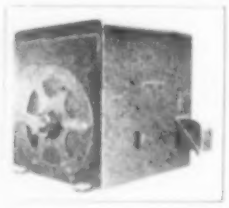
Source: OTTO BERNZ CO.
278-82 Lyell Ave., Rochester 6, N. Y.

New portable torch [illegible] gas from a supply carried in a cartridge [illegible] The torch produces a [illegible] flame for [illegible] Adjusting [illegible] is operated for [illegible] period [illegible] Weight with a full charge of [illegible] lbs. 2½ pounds. Operation is [illegible] under control [illegible]

IEN - 7887

MOTOR . . Totally enclosed, fan cooled, to 4,000 hp., employs heat exchanger

Source: ELLIOTT CO.
49 Keeley St., Jeannette, Pa.

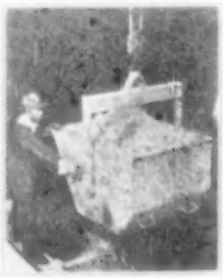


Type TEEE [illegible] Heated air [illegible]

IEN - 7888

HANDLING . . Tip-over dump bucket rights self when empty, 14 to 54 cu. ft.

Source: BLAW-KNOX CO.
2050 Farmers Bank Bldg., Pittsburgh 22, Pa.



Welded assemblies, [illegible] Lever on the side is moved [illegible] The bucket rights itself when it is empty. Overall dimensions of the standard standard [illegible] 41 by 40 by 47 inches. The [illegible] Dimensions of the larger [illegible] are 66 to 70 by 50 and 63 inches. Weight is 400 to 1,500 pounds.

All Makers in These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

IEN - 7889

IEN - 7890

IEN - 7891

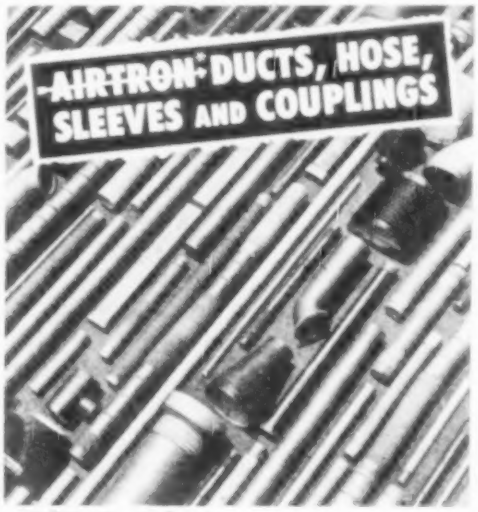
IEN - 7892

the new ANGLGear

STANDARDIZED RIGHT ANGLE GEAR UNIT with UNIVERSAL MOUNTING

AIRBORNE ACCESSORIES CORPORATION
25 MONTGOMERY ST. • HILLSIDE 5, NEW JERSEY
HOLLYWOOD, CALIF. • DALLAS, TEXAS • OTTAWA, CAN.

IEN - 7893



MADE OF FIBERGLASS and synthetic rubber - SUPERIOR to metal!

New lightweight material absorbs vibration, cuts costs, is adaptable to an amazing variety of uses.

Extremely Versatile –

Extreme Temperature Range –

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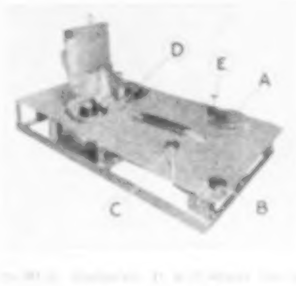
ARROWHEAD RUBBER COMPANY
DOWNEY, CALIFORNIA

IEN - 7895

DRUM CONDITIONING . . Roll machine straightens and seals chimes, shears

Source: L. M. GILBERT CO.
430 Chestnut St., Philadelphia 6, Pa.



Model DM-140

The machine

IEN - 7896

PRESS TOOLS . . Cutting board for application with steel rule dies

Source: COLONIAL RUBBER CO.
50 Oakwood St., Ravenna, Ohio

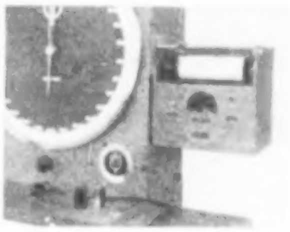
The board is self-healing

Tygon plastic

IEN - 7897

TESTING . . Electronic recorder for company's strength testing machines

Source: TINIUS OLSEN TESTING MACHINE CO.
1104 Easton Road, Willow Grove, Pa.



New recorder

IEN - 7898

METER . . Line of portable units for electrical measurements, ac. and dc.

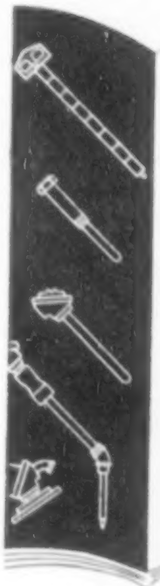
Source: WESTINGHOUSE ELECTRIC CORP.
P. O. Box 2099-A, Pittsburgh 30, Pa.

Type P-12

Ammeters

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . . See Page 88

IEN - 7899



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AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

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NEW Odee-HONE
A Single Tool for Honing any CYLINDRICAL SURFACE
from 1/2" to 2 1/2" in diameter — any length

Simple to set up and operate
- LIGHTWEIGHT
- VERSATILE
- ACCURATE
- INEXPENSIVE

MICROMATIC HONE CORPORATION
8100 SCHOOLCRAFT • DETROIT 4, MICHIGAN

IEN - 7901

THERMOSTATIC WATER MIXER

Controls Within ½° F.

Most Accurate Mixer Made
Widely used for X-Ray and Color Film developing and other processes requiring exact control; also for shower baths.

The Powers Regulator Co.
2727 GREENVIEW AVENUE, CHICAGO 14, ILLINOIS

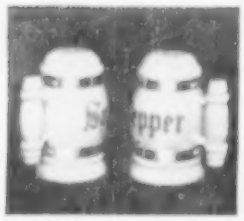
55 Years of POWERS WATER TEMPERATURE CONTROL

▼ BREEZE—Identify by IEN-7902 if you write the maker ▼

Brings counter close to coil for precision winding at high speed. Subtracts turns removed. Quick, one-motion reset. Gears bobbed on own shafts. Extremely long life. Many other features. Prompt shipment. Thousands in use. Send for Catalog or order sample on approval.

Production Instrument Company
700-10 W. JACKSON BLVD., CHICAGO 6, ILL.
Representatives in Principal Cities

▼ BREEZE—Identify by IEN-7903 if you write the maker ▼



Metal decorative bands stapled to wooden shakers

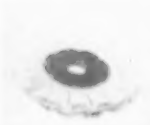
Metal hinges and flat bindings stapled to fiber case

You Ought to Know...

if Bostitch could fasten your product better and faster

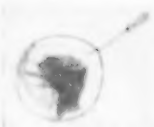
Your product may be entirely different from those illustrated on this page. But the chances are the materials you fasten are similar to one or more. Each of these manufacturers speeded up assembly, put fastening units superior product appearance or increased product strength by substituting hand and mechanical fastening. More than 400 different Bostitch machines for stapling, tacking and screwfastening provide for a factory. Tell us your problem or your fastening problem. Investigate? Mail the coupon below today!

Coils held securely by fastening staples



Cloth was tacked to metal mitting wheel discs

Staples avoid unsightly of wooden drawers



Stay-ring staples hold foil cut to frame

Wire of fine cotton holdes fragiles in shipping

Each staple replaces three screwheads

ATTACH THIS COUPON TO YOUR LETTERHEAD

BOSTITCH, 466 Mechanic Street, Westerly, R. I.

BOSTITCH
fastens it better with wire

ALL TYPES OF MACHINES FOR APPLYING STAPLES
ALL TYPES OF STAPLES APPLIED BY MACHINES

▼ BREEZE—Identify by IEN-7905 if you write the maker ▼

GRINDING . . Surface type machine vertical spindle, 14 to 32 in. wheel

Source: THOMPSON GRINDER CO.
1532-36 W. Main St., Springfield, Ohio

Fourteen machines are in this line, in a new line of fixed-column vertical surface grinders in which the wheels measure 14 to 32 in. in diameter and operate at 12 to 22 in. in front of the column shield. The wheel in each machine mounts on a ball bearing predisintegrator spindle with direct drive by a vertical motor rating 30 hp. at 1,200 rpm. on the smallest machine to 90 hp. at 800 rpm. on the largest.

The wheelhead [illegible] at rapid traverse at 15 ipm. to a vertical dialgauge table or wheel of 16 to 24 in. when the wheel is new. This is assisted by 4 to 20 in. when a magnetic chuck is specified. Hydraulic down feed is at [illegible] in. on each cutter reversing. Vertical hand adjustment is in 1/400 in. increments at a handwheel. The wheelhead includes a swing dressing. The head can be positioned manual with the drive longitudinal surface of at all angles to 10 deg. cw.

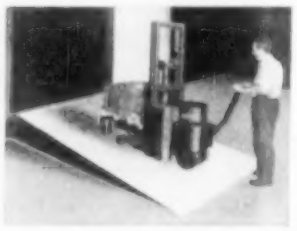
The table [illegible] 17½ W. to 35 in. by 120 in. long. Mounting is on flat-ways [illegible] the length of the maximum 60 to 120 in. [illegible] as there is no overhang. Hydraulic feed is variable to a maximum of 300 ipm. [illegible] is continued at both ends of the stroke. Table and [illegible] are provided with [illegible] for precision adjustment.

Hydraulic pressure is supplied by a separate [illegible] mounted in a housing at the rear of the machine. [illegible] equipment on the rear. Working and protective equipment can be specified. Lubrication [illegible] to the life of the pump [illegible] operating pressure. Floor space measures 120 sq. ft. to 400 sq. ft. [illegible] Weights are about 12,000 to 17,000 lb. [illegible] for the size of a machine.

▼ BREEZE—Identify by IEN-7906 if you write the maker ▼

ELEVATOR . . Hydraulic ramp levels platform with a truck floor

Source: REVOLVATOR CO.
2059 86th St., North Bergen, N. J.



Make-It-Evener is a new elevator with a 6 to 8 ft. platform that is placed flush with a loading or receiving platform at one end and is supported at a hydraulic piston at the other. A hand operated pump or a power driven unit supplies pressure to the cylinder to move the end of the platform through a total travel of 24 in. from 12 in. below the platform level. A lip at the outer end rests on a truck floor and pressure is released when the elevator is in operating position so the [illegible] and truck will move together. Load capacity is 2,000 lb.

▼ BREEZE—Identify by IEN-7907 if you write the maker ▼

FASTENING . . Steel anchor stud driven by cartridge in portable tool

Source: MINE SAFETY APPLIANCES CO.
21 Braddock Ave., Pittsburgh 8, Pa.

Steel studs that are pointed at one end and have a 5/8-in. thread or a straight shank and flared head at the opposite end are driven through steel parts to pin them together, or into concrete to serve as an anchor by this Velocity Power Driver.

The tool previously described [illegible] employs a low velocity impact bring pin that is not [illegible] in action, safe and simple point. Operation is under control of the speed or slow [illegible] by the operator so knocking is not a factor. A [illegible] is provided for driving the bolt forward against [illegible] resistance.

A spring loaded safety arm [illegible] to prevent [illegible] and stop the bolt [illegible] safety factor. Thus the [illegible] is completed. The tool [illegible] and stud [illegible] the [illegible] is given [illegible] operation [illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER. Designed for Ratings See Page 50

▼ BREEZE—Identify by IEN-7908 if you write the maker ▼

DRAFTSMEN WORK *Faster*

with Bruning Drafting Machines

Draftsmen work up to 40% faster with a Bruning Drafter because it conserves energy and increases accuracy. Combines T-square, straightedge, triangles, protractor, and scales into one precision instrument—eliminates time wasted in picking up and laying down tools. Equipping models have the best gravity compensator ever devised for maximum board use. Touch-Control Indexing is another exclusive Bruning feature.

FREE BOOKLET [illegible]

BRUNING DRAFTERS

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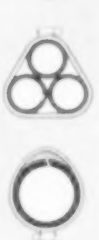


Clamp Most Anything
WITH
"Aero-Seal"
WORM-DRIVE CLAMPS

- Hold odd-shaped connections
- Hold multiple pipes or tubes
- Conform to any shape
- No distortion—no crimping
- Vibration-proof [illegible] tight
  Tow or loosen
- Use again and again
- Made in any length
- All stainless steel bands at no extra cost

WRITE TODAY FOR FREE SAMPLE!

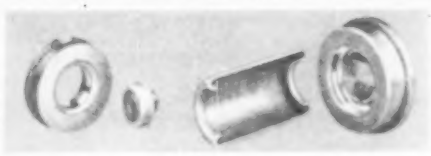
"Aero-Seal"®
HOSE CLAMPS

BREEZE CORPORATIONS, INC.
[illegible] Sixth Street Newark, N. J.

▼ BREEZE—Identify by IEN-7910 if you write the maker ▼

A TOUGH METAL-FORMING JOB... *licked with...*

HYPREZ
DIAMOND COMPOUNDS



Rewing work is speeding [illegible] Hyprez gives [illegible] and [illegible] method is perfect for performance.

For Finer, Faster Finishes on Dies, Molds, Tools

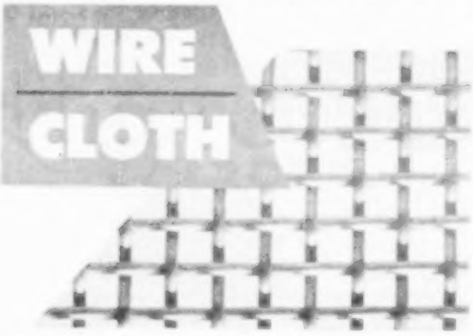
Hyprez Diamond Compounds are available in 20 [illegible] grades, in 10 and 2 grams [illegible] with the Hyprez Applicator Gun.

Write for informative Technical Folder or free demonstration to Dept. 8-82

HYPREZ DIVISION
ENGIS EQUIPMENT CO.
431 S. DEARBORN ST. CHICAGO 5, ILL.

▼ IEN-7911 ▼

WIRE CLOTH



For every industrial use

Cal-Wic Wire Cloth is available in a wide selection of weaves, weights and meshes . . . fabricated in various types of metals and alloys for resistance to corrosion, abrasion or high temperatures.

Whether you use wire cloth in the manufacture of original equipment, or in screening, filtering, grading, cleaning or processing, it will pay you to investigate the cost-cutting advantages of long wearing Cal-Wic Wire Cloth. Write for illustrated descriptive booklet.

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▼ IEN-7912 ▼

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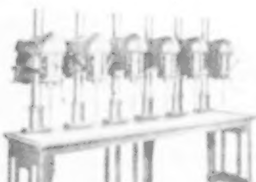
WALKER-TURNER
designed
DRILL PRESSES

cover a wide range of models, speeds, service

15" PRODUCTION MODEL

Adaptable for sanding, grinding, mortising, shaping and other metal and woodworking operations. Bench and floor models.



20" DRILL PRESS
6 Spindle, Hand Feed

SOLD ONLY THROUGH AUTHORIZED DEALERS

SEE YOUR LOCAL DEALER

KEARNEY & TRECKER MILWAUKEE

WALKER-TURNER DIVISION
PLAINFIELD, NEW JERSEY

WALKER-TURNER DIVISION
Kearney & Trecker Corp., Dept. IE8, Plainfield, N. J.

NEWS

NOTES

▼ IEN-7914 ▼

CALCULATING . . . Booklet on electronic calculator describes its use to solve problems in engineering work

International Business Machines Corp.
590 Madison Ave., New York 22, N. Y.

Half the pages in new 24-page booklet, "Fundamentals of Electronic Calculation", are occupied with a description of a calculation performed by the company's Technical Computing Bureau. This calculation provided a numerical analysis of the behavior of a pile when struck by a driver hammer. Results indicated what stresses occurred within the pile and cap block, as well as the penetration of the pile into the earth.

The other half of the booklet describes the company's facilities and equipment for electronic calculation on commercial and technical problems. There is a list of suggested problem types suited to punched-card treatment.

▼ IEN-7915 ▼

CLEANING . . . Maintenance suggestions in booklet on materials for paint spray booths

Three typewritten sheets comprise new Service Report on use of the company's materials in water-wash paint spray booths.

▼ IEN-7916 ▼

DRAFTING . . . Instruction booklet on how to use the company's drafting machine

Good practice with a drafting machine and maintenance suggestions are two of the sections in new 30-page pocket booklet, "How to Use Your Drafting Machine".

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Distributors . . . Ratings . . . See Page 50

▼ IEN-7917 ▼

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Every issue of Industrial Equipment News includes more than 1200 product ideas, so this is the spot to find them.

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THOMAS PUBLISHING CO.
461 EIGHTH AVENUE NEW YORK 1, N. Y.

▼ IEN-7918 ▼

AMERICAN-FORT PITT SPRINGS

▼ IEN-7919 ▼

Save On Steam Costs with CRANE Steam and Oil Separators

WORKING PRESSURES:
125 POUNDS saturated steam
250 POUNDS saturated steam
SIZES: 1½ to 12 in.

Available in Horizontal and Vertical types, these Separators assure the highest degree of efficiency with the lowest possible pressure drop.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

EVERYTHING FOR EVERY PIPING SYSTEM

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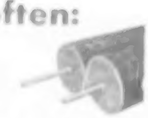
VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

▼ IEN-7920 ▼

The Answer is often:

USE



SHAF-TITE* ROLLS

Many Patented Constructions

Choice of

METAL, RUBBER, or WOOD ROLLS

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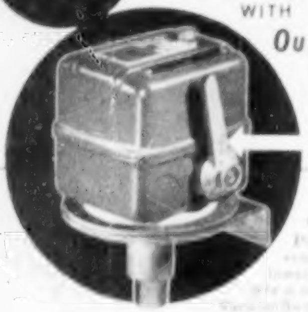
INDUSTRIAL ROLL DIVISION
RODNEY HUNT MACHINE CO.
873 Main Street — RODNEY HUNT — Orange, Mass., U.S.A.
*Reg. U. S. Pat. Off.

IEN - 7921

New Vacuum Switch

WITH

Outstanding Features



3-way lever

• Designed primarily for Vacuum Heating Pumps, this new ... compact and lower priced control ... a new standard for Vacuum Switches in its field.

Write for Bulletin 9018, Square D Company, 4041 N. Richards Street • Milwaukee 12, Wisconsin

SQUARE D COMPANY

IEN - 7922

FREE SANITARY SURVEY!

Let your Dolge Service Man make a complete sanitary survey of your premises with a view to helping achieve more effective, efficient, economical maintenance.

Send for Booklet No. 12

The C. B. DOLGE CO.

WESTPORT, CONNECTICUT

IEN - 7923

Eliminate Production Delays

Use *Positive* Drives

● Diamond Roller Chains deliver ... power at constant speed ratios ... DIAMOND CHAIN COMPANY, Inc., Dept. 465, 402 Kentucky Ave., Indianapolis 7, Indiana

DIAMOND ROLLER CHAINS

NEWS NOTES—Continued

"Two bus loads of apparatus on tour"

IEN - 7924

ENGINEERING . . . One-week conference on industrial engineering methods and procedures

September 11 to 15 is the date for the second annual Industrial Engineering Conference sponsored by the College's Mechanical Engineering Department.

IEN - 7925

ENGINEERING . . . Kent's Handbook in new two-volume edition that totals 3,000 pages

Twelfth Edition of Kent's ...

Volume 1 ...

Volume 2 ...

IEN - 7926

EQUIPMENT . . . Two coaches of apparatus to tour the country for inspection by industry

Thirty-seven states are on the touring schedule for "The Detroiter" and "The Milwaukean," a pair of motor coaches that will display and demonstrate the company's electrical distribution and control equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

IEN - 7927

are businessmen COLD-BLOODED?

OF COURSE NOT! Literally, their normal body temperature is 98.6—same as laborers, engineers or any other group of people. And, figuratively, they're no more, or no less, cold-blooded—as a group.

We all know unreasonable generalizations can be dangerously false. Common sense and on-the-job experience show us the value of dealing specifically with ideas, problems—and people.

Let's not make the big—and costly—mistake, then, of generalizing on religious or racial groups. Adopt and carry out these common sense principles:

1. Accept—or reject—people on their individual worth.
2. Don't listen to or spread rumors against a race or a religion.
3. Speak up, wherever we are, against prejudice. Work for understanding.

INDUSTRIAL EQUIPMENT NEWS

THOMAS PUBLISHING COMPANY

New York 1, N. Y.

IEN - 7928

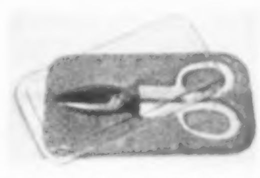
FOR SPEED AND ECONOMY OF DIE COST IN CUSTOM PLASTIC MOLDING

TuFormit PROCESS

TRADE MARK

TUT, Inc. using their TUFORMIT PROCESS can:

1. SAVE VALUABLE TIME FOR YOU—...
2. SAVE MONEY FOR YOU—...
3. SUPPLY YOU WITH—...
4. OFFER YOU COLOR—...



TUT, Inc., 232 Gordon Bldg., Auburn, New York

IEN - 7929

"For want of a nail, the shoe was lost."

Keep thy costs under constant scrutiny, lest a competitor catch thee napping in ye Buyer's Market.

SHIPPER SAVES $30 PER CAR

ACME STEEL

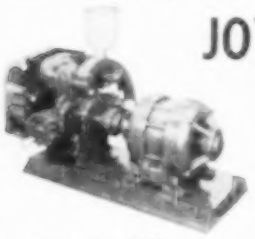
ATTACH THIS COUPON TO YOUR BUSINESS LETTERHEAD

▼ REPRINT—Identify by IEN-7931 if you write the maker ▼

Here's Efficient, Dependable Air Supply

JOY WL-80

"UNITAIR" COMPRESSOR



- 81 to 640 CFM
- Two stage — Air cooled
- A size for every standard motor rating
- Force-fed lubrication
- Small floor space requirements

And here's FREE HELP!

Bulletin A-74 — new, with 16 facsilled pages and a Selector Chart. Write for it to select the right compressor for your needs.

Consult a Joy Engineer

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

▼ REPRINT—Identify by IEN-7932 if you write the maker ▼

ORANGEVILLE HAND TRUCKS

"Keep Loads Alive"

Illustrated are a few of the many hand trucks we make for factory and warehouse use. They are typical of a wide range of available types and sizes which we can furnish in two-wheel and four-wheel designs. We also build special trucks to order to meet unusual handling needs.

Write for Catalog 50

ORANGEVILLE MFG. CO.
ORANGEVILLE 15, PA.
Established 1879

▼ REPRINT—Identify by IEN-7933 if you write the maker ▼

NEW-and Real News!

a genuine MAGNAFLUX portable INSPECTION UNIT for $485 complete

Locates surface and sub-surface defects in shafts, drives, locks, etc. by magnetic particle inspection

Offers big savings in maintenance and safety inspection and prevents production stoppages caused by equipment failure. Its other uses include $1400 equipment for manufacture. Built for the Engineer and composition of magnetic particle inspection. Magnaflux and shape. Magnaflux power is both AC and DC from 115 volt AC line. Write for Bulletin 5000.

MAGNAFLUX CORPORATION
5914 Northwest Highway • Chicago 31, Illinois
New York • Detroit • Cleveland • Dallas • Los Angeles

NEWS NOTES—Continued

"Instruction manual on hard facing"

▼ REPRINT—Identify by IEN-7934 if you write the maker ▼

GAGES . . . Plastic slide selector for plug and ring thread gage dimensions

▼ REPRINT—Identify by IEN-7935 if you write the maker ▼

HARD FACING . . . Instruction manual on hard facing methods and materials for metal parts

▼ REPRINT—Identify by IEN-7936 if you write the maker ▼

MANAGEMENT . . . Book on engineering economics describes how to answer the question, "Will it pay?"

Third Edition of Theodore G. Eschenbach's Engineering Economics, a 600-page book, has just been published by Prentice-Hall, Inc., Englewood Cliffs, N. J. It emphasizes two points. First, it is practical. Alternatives between alternatives that are common to most companies and second, that the basic economic question underlying a proposed capital goods investment is whether the investment is likely to be rewarded with a return commensurate with the risk. Hence, decisions are dangerous, because problems, methods of making economic studies, getting results from economic studies are much topics in the new book.

All Makes of Trucks And All Other Products Are Listed In THOMAS REGISTER . . . Descriptions . . . Ratings . . . See Page 56

▼ REPRINT—Identify by IEN-7937 if you write the maker ▼

HEAR NO EVIL

Although it is wise to avoid unnecessary gossip, only a coward shies for cover to realize. And causes to a great cause. We must open our ears to the discovering truths which will reach us and our neighbors the safeguards against cancer. For humanity's sake—and our own preservation—we must support the crusade against the social scourge of cancer.

GIVE TO CONQUER CANCER

AMERICAN CANCER SOCIETY

▼ REPRINT—Identify by IEN-7938 if you write the maker ▼

Portable, High-capacity, High-voltage

Testing Units

For testing cables, generators, large motors, transformers, and other high-voltage equipment, a portable high-capacity testing unit provides convenience, speed, and economy.

Write General Electric for a proposal. Information on your power needs (as outlined, size and supply voltages, kw required to be tested, type of test and electrical characteristics). A suitable unit without unused components will be quoted. Specify Bulletin GEA-7000 for details.

GENERAL ELECTRIC

▼ REPRINT—Identify by IEN-7939 if you write the maker ▼

Improved Method Centrifugal SPRAY DRYER and CONCENTRATOR*

Complete information on improved centrifugal Spray Dryer, illustrated with photographs and engineering design drawings.

THE DRYING AND CONCENTRATING COMPANY DRYER

Improved method for DEHYDRATING

Solutions, emulsions and pastes which can be handled in a liquid form including:

Chemicals
Pharmaceuticals
Milk Products
Blood or Blood Plasma
Soaps, Vegetables, etc.

This complete spray drying plant includes a vertical centrifugal type spray head, and consists of a Drying Chamber, Concentrator, Air Heating Unit, Air Filter, Air Supply Fan, Powder Cyclone and Exhaust Fan with variable speed drives for handling the liquid material and controlling the moisture.

*CONCENTRATOR AVAILABLE SEPARATELY

The concentrator can be operated as a separate unit for reducing liquid products to desired and desired degree of concentration, almost instantaneously, reducing product losses and efficiency.

DRYING and CONCENTRATING CO.
333 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

▼ REPRINT—Identify by IEN-7940 if you write the maker ▼

THE FLORLINE MARKING MACHINE

Makes Safety & Parking Lines At Walking Speed!

Often pays for itself on the first job! 1 man alone can do the floor marking in 1 day that previously took an entire crew.

$89.50 F.O.B. Detroit

H. C. SWEET CO.
12083 Woodbine Ave. Detroit 28, Michigan

▼ BREVITY—Identify by IEN-7941 if you write the maker ▼

The ANSWER to controlling air electrically!

MODEL NE
Electric
VALVE

10 WATT SOLENOIDS—Low power requirements. No relays, no transformers required. Operates directly off regular 110 or 220 v. circuits. Solenoids continuously rated.

FAST, EFFORTLESS CONTROL—Works by push button, limit switch, or any light contact. Only momentary contact needed. Ideal for remote control . . . interlock or sequence operation . . . building into equipment.

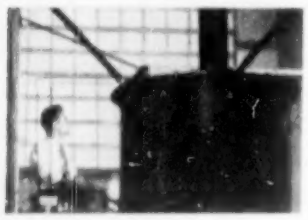
DISC TYPE—Pilot controlled, piston operated. Metal to metal seat; positively air-tight. Quiet, self-lapping, long lasting. No packing or seals to maintain.

HANNIFIN ENGINEERED—Small, rugged, self-contained. Type 1 for control of advance and return cylinder strokes through separate push buttons. Type 2 for single push button control—equivalent to spring return valve action. Sizes ¼", ½", and ¾". 25 to 150 p.s.i.

Ask for Bulletin 230

HANNIFIN
Corporation
1107 So. Kilbourn Avenue • Chicago 24, Illinois
Nationwide Sales and Service

▼ BREVITY—Identify by IEN-7942 if you write the maker ▼



High Voltage Transformer for Testing Dielectric Strengths as seen in National's Research Laboratories

National's Continuous Research
—the answer to your
Improved Profitable Products

National, not only carries on a continuing quality control program in the manufacture of National Vulcanized Fibre and Phenolite to assure adherence to rigid specifications, but is constantly seeking improvements in these products for the advancement of industries where plastics properly perform.

NATIONAL VULCANIZED FIBRE

PHENOLITE Laminated PLASTIC

NATIONAL VULCANIZED FIBRE CO.

NEWS NOTES—Continued

"Booklet tells how machines make jobs"

▼ BREVITY—Identify by IEN-7944 if you write the maker ▼

MANAGEMENT . . . Booklet for employees describes with examples how machines make jobs

An actual example [illegible] "Machine". The example shows how one company, by automatic machine, [illegible] a method of dispensing soap, [illegible] The result is that many of our machines have created jobs for a variety of industries, coincides with the statement that "the design of a machine, using his job to a machine is his point is nothing to the design of using it to a machine in some competing plant, or a competing industry. If his firm doesn't keep up, it's the competition." [illegible] of the booklet is 10 cents for single copy.

▼ BREVITY—Identify by IEN-7945 if you write the maker ▼

NICKEL ALLOYS . . . Engineering data in bulletin on corrosion-resistant alloy Inconel

International Nickel Co.
67 Wall St., Room 700, New York 5, N. Y.

Technical Bulletin T-7, revised 24-page edition, presents detail information on engineering properties of the company's nickel-chromium alloy Inconel. Tables and text cover physical and mechanical properties, effect of temperature on strength, corrosion resistance, working characteristics, mill products. There also is a data section on Inconel "X".

▼ BREVITY—Identify by IEN-7946 if you write the maker ▼

PLASTICS . . . Encyclopedia of 1,214 pages describes materials, processes, equipment, makers

Modern Plastics Encyclopedia
522 5 42nd St., New York 17, N. Y.

New 1950 Edition of the Encyclopedia is made up of four sections, engineering, materials, technical data and a directory. Principal topics include molding design factors, molding, extruding and casting, fabricating and finishing, machinery, material characteristics, film and sheeting, laminates. The book contains a bibliography, a directory of manufacturers and services, and a number of properties charts. List price is $2.

▼ BREVITY—Identify by IEN-7947 if you write the maker ▼

TRUCKS . . . "How to Handle It" issue of company's house publication on power trucks

Clark Equipment Co.
Buchanan, Cass & Mich.

Current issue of "Material Handling News" is a collection of application photographs and stories on power lift trucks and tractors as applied to material handling. It shows how to handle barrels, bulk materials, bags, maximum crates.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 31

▼ BREVITY—Identify by IEN-7949 if you write the maker ▼

Engelhard meets every

THERMOCOUPLE NEED!

NOBLE METAL THERMOELEMENTS AND THIMBLES

platinum vs. platinum-rhodium, repaired at substantial savings, with credit for reclaimed metal.

BASE METAL THERMOELEMENTS

chromel vs. alumel iron vs. constantan copper vs. constantan.

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All types and sizes.

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TERMINAL HEADS AND LEAD WIRE, ETC.

At Engelhard, you will find a complete line of thermocouples and accessories to meet all requirements. The individual parts of Engelhard thermocouples are selected and assembled for your specific conditions of atmosphere and temperature. You can rely on Engelhard's more than 40 years of research and instrument building experience to solve your temperature measurement problems. Write for complete information today.

CHARLES ENGELHARD, INC.
850 PASSAIC AVE., EAST NEWARK, N. J.

▼ BREVITY—Identify by IEN-7950 if you write the maker ▼

Diameters to 30 inches

SPIRATUBE . . . the new flexible tubing . . . works efficiently both ways . . . blowing . . . exhausting.

A zephyr or a gale . . . you put air where you need it with SPIRATUBE. And SPIRATUBE's neoprene rubber cushion rides with the punch of abrasive solids. It's the new conveying tube of industry.

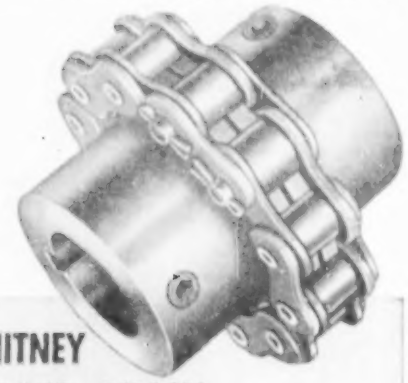
Every advantage you want . . . bends at any point . . . no ridges inside to obstruct air passage . . . light and easy to carry . . . quick to connect . . . extra strong . . . safe . . . retracts for easy stowage.

Let's discuss your problems . . . no obligation. New Engineering Catalog available. Send for your copy today.

Box 149 K

FLEXIBLE TUBING CORPORATION
SPIRATUBE
BRANFORD, CONNECTICUT, U.S.A.

▼ BREVITY—Identify by IEN-7943 if you write the maker ▼



WHITNEY ROLLER CHAIN
Flexible Couplings

FOR YOUR DIRECT POWER DRIVE APPLICATIONS

Whitney Roller Chain Flexible Couplings offer the manufacturer and machine user a [illegible] for expensive power transmission [illegible] and increased [illegible] equipment life. [illegible] Whitney Flexible Couplings [illegible] power transmission [illegible] Write for Whitney Flexible Couplings Catalog. [illegible] Whitney Roller Chain Flexible Couplings [illegible] Write for information [illegible]

WHITNEY CHAIN COMPANY
202 Hamilton Street — Hartford 2, Connecticut

▼ BREVITY—Identify by IEN-7948 if you write the maker ▼

DID YOU KNOW THAT . . .

$110.00 buys one of these one-ninth page units of advertising space where a factual description of your products will be seen by . . .

60,338 . . . engineering, operating and production men in all industries . . .

86.1% . . . in plants rated at $100,000 and over and . . .

96.4% . . . of them indicated as most likely to see your advertisement when they check Industrial Equipment News for product news and information and to look for their current requirements.

Good for selling . . . because . . . used for buying

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IEN

INDUSTRIAL EQUIPMENT NEWS
THOMAS PUBLISHING COMPANY
461 Eighth Avenue — New York 1, N. Y.

▼ BREVITY—Identify by IEN-7951 if you write the maker ▼

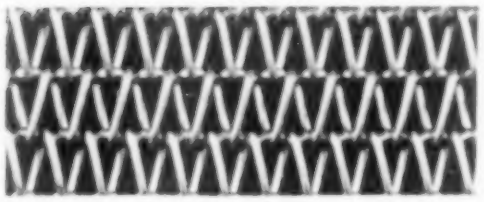
NOW a soldering gun for all types of work! This new Weller Gun with 250 watts rating handles heavy soldering with ease . . . yet the compact, lightweight design makes it equally suited for delicate jobs, and getting into tight spots.

Fast 5 second heating, extra long reach and new RIGID-TIP mean real soldering of heavier, clean and under "position of terminals" increases visibility with professional spotlight. Closed-shape RIGID-TIP gives more soldering area for faster heat transfer, and new design provides bracing action for heavy jobs. No need to unplug, just leave tools where you pull the trigger. Order from your distributor or write for bulletin direct.

WELLER MANUFACTURING COMPANY
823 Packer Street • Easton, Pa.

▼ DATA FITT—Identify by IEN-7952 if you write the maker ▼

WISSCO BELTS



Cover a wide utility range

In a wide variety of applications—from transport of textile yarn and cleaners, and for processing foods and other products—Wissco Belts have demonstrated their ability to step up production and reduce handling costs.

Wissco Metal Processing Belts operate efficiently and dependably in temperatures extremes from subzero to 2500°F.—are specially engineered to resist corrosion and abrasion.

Write for illustrated folder describing the adaptability of Wissco Belts and the many money saving advantages they offer you.

WISSCO METAL PROCESSING BELTS

A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL & IRON CORPORATION
Sales Office and Plant—16 Sterling Street, Clinton, Massachusetts
General Office—100 Fifth Avenue, New York 18, New York
Sales Offices—Atlanta • Boston • Buffalo • Chicago • Denver • Detroit • New York • Philadelphia
Pacific Coast—The California Wire Cloth Corporation, Oakland 6, California

▼ DATA FITT—Identify by IEN-7953 if you write the maker ▼

A NEW HANDBOOK ON MEASUREMENT AND CONTROL

with your annual subscription to INSTRUMENTS

The Magazine of Measurement and Control

At present there is no handbook on instruments and devices for measurement, regulation, testing and control and plant. The Instruments Publishing Company has always believed that a great need could be satisfied by an authoritative handbook covering the subject of instrumentation in a form convenient for use in the design.

Prompted demand for a comprehensive Handbook of Measurement and Control decided that we would plan to bring out this book. Experience and manufacturers of instruments from the years 1950 to 1954 has changed it.

Carefully detailed demand specifications, the book will present for the first time an orderly readable, informative digest of the new science of instrumentation. It will be arranged conveniently for quick reference or for systematic study. Each chapter will describe Methods, define Classifications, explain Operating Principles and give Characteristics—but will not describe commercially available products.

Manufacturers' catalog advertisements in the pages following these chapters will describe the design, construction and specific advantages of their instruments.

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See us in Booth 126 at the 5th annual Instrument Show at Buffalo, N. Y.

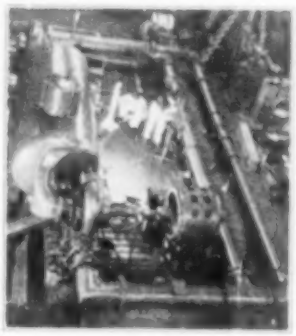
5th NATIONAL INSTRUMENT EXHIBIT
INSTRUMENT SOCIETY OF AMERICA
BUFFALO
MEMORIAL AUDITORIUM
SEPTEMBER 18-21, 1950
WELCOME TO BUFFALO

NEWS NOTES—Concluded

"Handbook of 700 pages on power presses"

▼ DATA FITT—Identify by IEN-7955 if you write the maker ▼

TURBINE . . . Can be used as a pump, test unit is for pumped storage hydroelectric power



Test setup is designed for new pump-turbines that can be used in electric power generation systems. It functions as a pump during periods of off peak electrical demand—to transfer water from a low-level reservoir to a high-level reservoir. During this time it uses inexpensive off peak electrical power.

Action is reversed during a period of peak demand for electrical power. The unit serves as a turbine through which the water returns from the high-level storage reservoir to generate power. This power can be sold at a premium rate to justify the investment in the equipment.

Construction includes a single runner enclosed in a casing with a wear ring and movable stream guide. Design is a compromise between a centrifugal pump and a turbine.

▼ DATA FITT—Identify by IEN-7956 if you write the maker ▼

PRESSES . . . Technical handbook of 700 pages on company's power presses with basic data on presswork

"Power Press Handbook" comprising 700 pages of technical data, information on the types and sizes of presses, and the company's line of power presses is now available after two years in the making. It is made up of 63 sections covering operations, equipment, engineering data and tool design. List price is $5.00.

The four major operations of stamping, forming, drawing and cutting are covered with emphasis on production on presses equipped with power, automatic feed, operated by the press. The page illustrations and text give data, if the company's presses and equipment were to work today on the same job. How is it possible? Because the manufacturer, at the time of publication, has kept up with the times and has made a continuous study of the problems of the metal stamping industry.

Erection, operation . . . [illegible]

All Makers of Tools and All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 10

▼ DATA FITT—Identify by IEN-7957 if you write the maker ▼

FREE PURCHASING GUIDE

(THOMAS' REGISTER, JR.)

2400 pages (4 x 10) containing 100,000 product listings of advertisers in the forthcoming edition of THOMAS' REGISTER of American Manufacturers.

"Jr." is an advance-of-publication auxiliary to the regular THOMAS' REGISTER's 7900 pages (9 x 14) which lists all makers of all products.

"Jr." is especially popular with key plant operating men who have need for a purchasing guide and are satisfied with a condensed version.

Listings in "Jr." are amplified with product descriptive text and Capital Ratings of the sources of supply.

"Jr." is distributed free to T.R. subscribers and to non-subscribers, one copy to a request. A copy will be sent free upon request on your company letterhead.

THOMAS PUBLISHING COMPANY
467 EIGHTH AVE., NEW YORK 1, N. Y.

▼ DATA FITT—Identify by IEN-7958 if you write the maker ▼

EVICTION NOTICE!

Dirt, Dust and dust know out of their lodgings fast when a CLEMENTS CADILLAC blower-suction cleaner is pointed their way. Use it regularly to avoid the three troublemakers. Keep every crack and crevice of your machinery, and equipment. There's no better, more economical way to do it.

SAVE TIME • MONEY
PREVENT DAMAGE TO MACHINERY WITH THE . . .

CLEMENTS CADILLAC

Made in 5 models with attachments for every cleaning job.

PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS MFG. CO.
540 S. NARRAGANSETT AVE. CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

▼ DATA FITT—Identify by IEN-7959 if you write the maker ▼

You'll be interested in this test if you want

durable, low-cost intermediates of your drawings

In a "environmental test" made for the Virginia Department of Highways, this Kodagraph Autopositive Paper intermediate was left unprotected on a road sign for 30 days—exposed to 280 hours of direct sunlight . . . and 0.56 inches of rain. After all this abuse the print was "good as new."

Proof, indeed, that "temperamental" will stand up under low-to-rough outdoor conditions . . . will remain intact in the blue . . . ready to produce blueprints or direct process print-masters on demand.

Other advantages. Kodagraph Autopositive Paper produces positive photographic intermediates directly . . . without a negative step or darkroom handling, at surprisingly low cost. With it, you can also protect your valuable originals . . . reclaim your "unprint-able" . . . simplify print production.

* * *

A new free booklet gives full details on revolutionary Kodagraph Autopositive Paper, which you or your local blueprinter can process economically. Write today for a free copy.

Kodagraph Autopositive Paper
"THE BIG NEW PLUS" in Engineering Drawing Reproduction

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak
TRADE-MARK

BRIEFIT—Identify by IEN-7961 if you want the maker

Bag Closing Machines for Every Need . . .

. . . from UNION SPECIAL'S Complete Line! . . .

For lower production cost . . . stronger, neater closures . . . ability to get out rush orders in a hurry, you can't beat Union Special Bag Closing Machines! In the Union Special line, it's easy to find the right one to meet your particular requirements: 25 different styles of machines! 10 styles of sewing heads! For any kind and size of bag . . . paper, cotton, burlap, or jute. ASK FOR ILLUSTRATED BULLETIN No. 200.

SEND FOR THIS ILLUSTRATED BULLETIN!

Union Special MACHINE COMPANY 400 North Franklin St. Chicago 10, Illinois

BRIEFIT—Identify by IEN-7962 if you want the maker

WRITE TODAY!

DICO'S 1950 CATALOG NOW READY!

A UNIQUE CATALOG SIMPLIFIES YOUR WHEEL ENGINEERING PROBLEMS

A MODERN LINE OF INDUSTRIAL RUBBER DIAMETER WHEELS 6" — 18"

DICO CORPORATION
402 S.W. 16th ST., DES MOINES 5, IOWA

BRIEFIT—Identify by IEN-7963 if you want the maker

NEW 10-ton Industrial Yard Crane

WAYNE CRANE

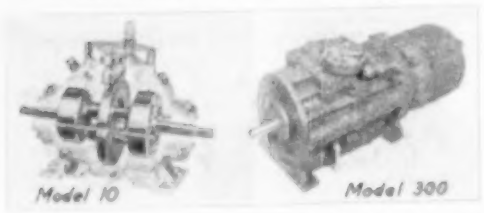
MODEL 20

MAGNET • CLAMSHELL • DRAGLINE •

BRIEFIT—Identify by IEN-7964 if you want the maker

DRIVE . . Variable speed transmission, reversing and non-reversing, to 3 hp.

Source: GRAHAM TRANSMISSIONS INC. 3756 N. Holton St., Milwaukee 12, Wis.



Model 300 is a new addition to the company's line of airplane [illegible]

Standard design [illegible]

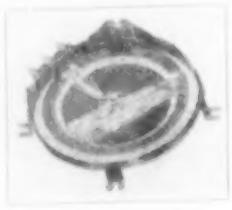
Four variations [illegible]

Overall dimensions [illegible]

BRIEFIT—Identify by IEN-7965 if you want the maker

RHEOSTAT . . Light dimming control, to 8,000 watts on 110-volt 60 cycle ac.

Source: WARD LEONARD ELECTRIC CO. 29-33 South St., Mount Vernon, N. Y.



Radiastat Dimmer [illegible]

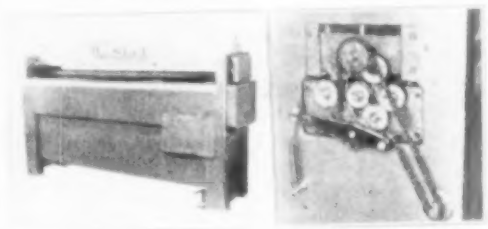
The assembly [illegible]

Bulletin 26, 16 pages, "Rheostats and Accessories" [illegible]

BRIEFIT—Identify by IEN-7966 if you want the maker

STRAIGHTENING . . Roll type machine handles metal plates 18 gage or less

Source: CONSOLIDATED EQUIPMENT CO. 2159 W. Wabansia Ave., Chicago 47, Ill.



Three lower rolls [illegible]

Drive [illegible]

To Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Description . . . Ratings . . . See Page 80

BRIEFIT—Identify by IEN-7967 if you want the maker

ASK YOUR VICTOR DISTRIBUTOR ABOUT

VICTOR molyflex 1018-006

THE NEW molyflex High Speed HAND HACK SAW BLADES

Your Victor distributor will tell you that this new "Molyflex" . . . when pitted against eight leading competitive blades in cutting treated SAE 52100 ball bearing steel . . . averaged 23.8% more metal cut than all the leading brands tested. He will tell you that this new "Molyflex" . . . an addition to the Victor line . . . has greater uniformity, is absolutely shatterproof and unbreakable when used in a frame.

VICTOR STEELRITE METAL MARKING CRAYONS

Ask your Victor distributor about the new Victor Steelrite Metal Marking Crayons. Available in a variety of sizes, these crayons are made of genuine soapstone. Special extrusion process insures uniform strength and composition. Markings can be made on hot, cold, damp or grimy metal and withstand pickling, yet do not affect enamel application.

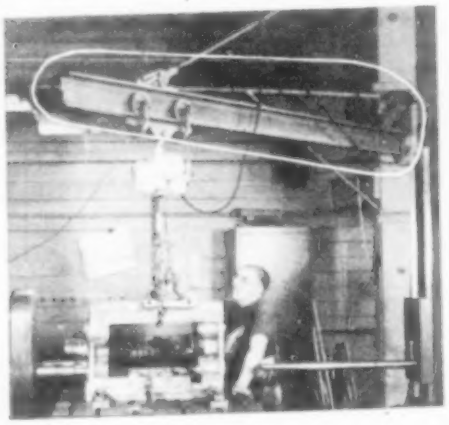
Don't forget to ask for a free copy of the Victor Metal Cutting Booklet for your pocket or tool kit and the Victor Wall Chart for your shop. They'll help you get the maximum efficiency from your metal cutting saw blades.

VICTOR SAW WORKS, INC., Middletown, N.Y., U.S.A.

Makers of Hand and Power Hack Saw Blades, Frames and Band Saw Blades.

BRIEFIT—Identify by IEN-7968 if you want the maker

. . . NOW . . . . .



. . . . . SAFE ONE-MAN handling for FASTER SETUPS

THE OHIO TRAMRAIL SYSTEM

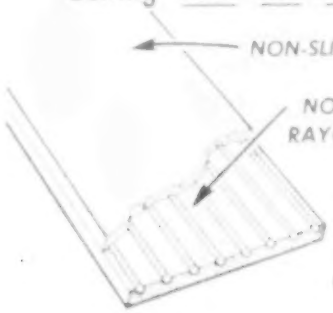
Again Ohio Tramrail versatility reduces downtime, cuts setup costs, with handy UR cranes to position heavy parts for machining operations. Planning a crane or tramrail job? Ask for Ohio's sample specs to aid you.

THE OHIO CORPORATION · Cleveland 6, Ohio

• CRANES • TRAMRAIL • TRANSFER BRIDGES

BRIEFIT—Identify by IEN-7969 if you want the maker

New Cordon leather belting does not stretch!



- Maintains Constant Tension Less Slippage and Longer Life
- Backed by our Liberal Guarantee

S. R. SIKES COMPANY
Established 1881
1026-30 S. Third St., Minneapolis 15, Minn.

IEN-7970

16" STREAMLINE EXHAUST FAN

29.50 tax incl.

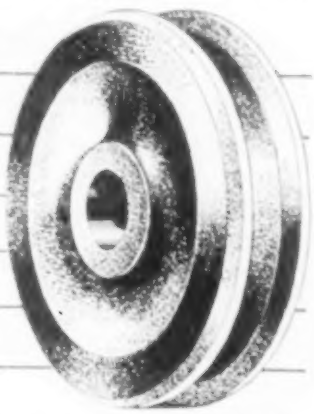
- Heavy Duty
- More Air—2500 C.F.M.
- 110 volt, 60 cycle, A.C.
- Torrington Aluminum Fan Blades
- Unbreakable Steel Frame
- 1/6 H.P. Thermal protected motor
- One-year Unconditional Guarantee
- Model No. 16EF

"The BIG NAME in FANS"

STANDARD ELECTRIC MANUFACTURING CO., INC.
WEST BERLIN, NEW JERSEY

IEN-7971

WROUGHT STEEL CRANE WHEELS by STANDARD



Built for extra service by a pioneer producer of railroad wheels, under continuous quality-control from melting of metal to final finishing. Rugged, tough, strong, durable. Available in a range of sizes. Prices on request.

BALDWIN STANDARD STEEL WORKS
The Baldwin Locomotive Works
Standard Steel Works Division
Burnham, Pennsylvania

IEN-7972

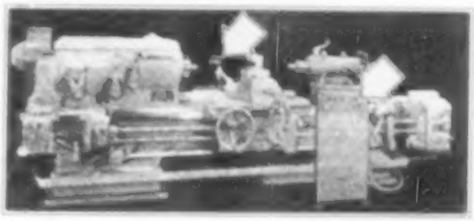
[illegible]

farris stacon CORPORATION

IEN-7973

LATHE . . Template controlled for steel mill rolls to 15 and 20 in.

Source: MONARCH MACHINE TOOL CO.
613-17 N. Oak St., Sidney, Ohio



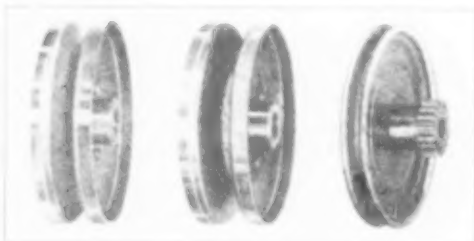
Models N and NN [illegible]

Control [illegible]

IEN-7974

DRIVE . . V-belt sheaves, adjustable pitch, with gear or sprocket

Source: C. R. LINDQUIST CO.
101-5 S. Stone Ave., La Grange, Ill.



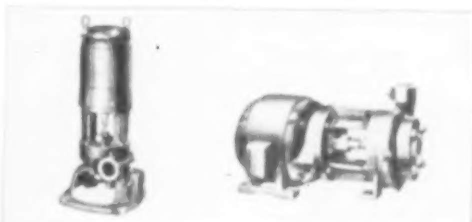
Pressed-steel [illegible]

In addition [illegible]

IEN-7975

PUMP . . Single stage centrifugal mounts on Type-C NEMA motor flange

Source: DEMING CO.
184-88 Broadway, Salem, Ohio



Capacities [illegible]

Three types [illegible]

Bulletin 4250, [illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 86

IEN-7976

Electro-AIRMAT serves you better 4 ways

Modern AAF Air Filter Combines Best Features of Both Electronic and Mechanical Filtration

1. Easy, Positive Maintenance — [illegible]

2. Simplified Installation — [illegible]

3. High Operating Efficiency — [illegible]

4. Stops Dust Infiltration — [illegible]

Write for Electro-Airmat Bulletin No. 253

AMERICAN AIR FILTER CO., INC.
335 Central Ave., Louisville 8, Ky.
In Canada: Darling Bros. Ltd., Montreal, P. Q.

AAF ELECTRO-AIRMAT ELECTRONIC AIR FILTER

IEN-7977

Over Half of America's Top Companies Use "Speed Sweep"

THE BRUSH WITH THE STEEL BACK

BECAUSE it sweeps faster and cleaner, and outlasts ordinary brushes 3 to 1, Speed Sweep has become the No. 1 sweeping tool of American industry — used by over 50,000 firms. Whether you use a few or a lot of brushes, you'll find it pays to switch to Speed Sweep.

Write for styles, sizes and prices.

MILWAUKEE DUSTLESS BRUSH CO.
MILWAUKEE 3, WISCONSIN

IEN-7978

The HALLOWELL WORK BENCH OF STEEL

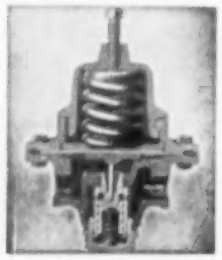
Standardized, ready-made HALLOWELL Work Benches save trouble and expense of "building your own"; provide superior equipment for maximum productivity. Interchangeable units readily adaptable to individual requirement. Easily bolted together to form continuous bench, yet may be taken down and reassembled as single units. Rigid, heavy-duty construction eliminates bolting to the floor, minimizes installation and maintenance. HALLOWELL Work Benches do credit to any plant. Functional design and attractive appearance encourages better plant housekeeping and worker performance. Full details in Bulletin 701.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 18, PENNSYLVANIA

▼ REPRINT—Identify by IEN-7979 if you write the maker ▼

ACCURATE CONTROL

with the DAVIS No. 13 PRESSURE REGULATOR



Built-in Strainer — Single Seat
No Leakage — No Sticking
Self-Contained

HERE is everything you need for good pressure regulation on steel steam or air generating equipment: quality construction, accurate control, trouble-free service, low maintenance—and yet the Davis No. 13 Pressure Regulator is priced low enough to be practical for individual installations of unit heaters, gauges, oil-fired boilers, steamers, autoclaves and other steam equipment.

Sizes from ¾ to 2" in bronze, semi-steel and steel bodies. Bronze, nickel or chrome trim. All parts accessible and removable without disturbing pipe connections. DAVIS REGULATOR COMPANY, 207 South Highland Avenue, Chicago Illinois.

Write today for your copy of the Davis

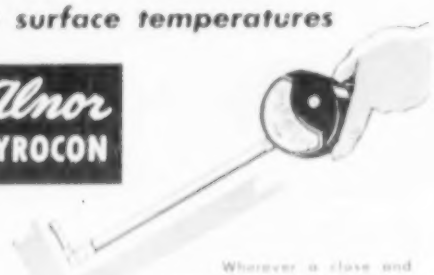
Pressure Regulator Service Chart

DAVIS REGULATOR COMPANY

▼ REPRINT—Identify by IEN-7980 if you write the maker ▼

for close check on surface temperatures

Alnor PYROCON



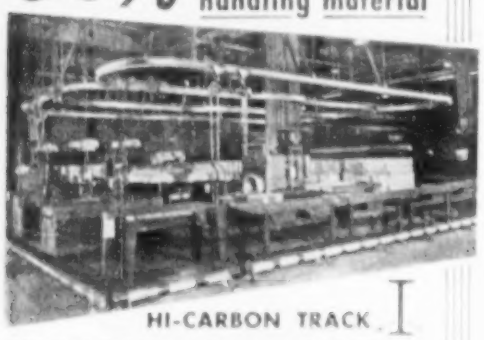
Wherever a close and frequent check on low surface temperatures must be maintained on machines and materials, you'll find the handy Portable Pyrocon a valuable instrument. It is unexcelled for fast, accurate temperature readings of any surface, flat or curved, stationary or revolving. It may be used with plastic materials, waxes, rubber, liquids, oil or grease, molten soft metals, etc. The rugged Pyrocon can bring laboratory accuracy to your temperature measurement—at low cost. Write today for details on wide selection of thermocouples and extension wires.

Illinois Testing Laboratories, Inc.
Room 517, 420 N. LaSalle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▼ REPRINT—Identify by IEN-7981 if you write the maker ▼

30% of a Product's Cost is often spent for handling material



HI-CARBON TRACK

INDUSTRIAL MONORAIL and CRANES

may be your solution

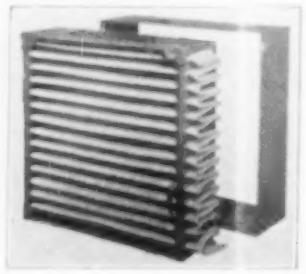
- Industrial Monorail Track is rolled of high carbon manganese steel in standard I beam shapes.
- Tapered treads help center the load to reduce flange friction and wear.
- Increasing track flange thickness at web of the track gives added strength where flange bending movement is greatest.

INDUSTRIAL EQUIPMENT CO.
321 NORTH ADA STREET CHICAGO 7, ILLINOIS

▼ REPRINT—Identify by IEN-7982 if you write the maker ▼

DUST COLLECTING . . Filter panel for air conditioning and ventilating

Source: DOLLINGER CORP.
9-13 Centre Park, Rochester 2, N. Y.



Model WKE-8 is a new 24 by 24 in. filter panel 8 in. in depth that provides 29 sq. ft. of filter area utilizing the company's replaceable inexpensive filter paper known as Fertex. This paper applies according to fashion over a screen made of 4 by 4-mesh galvanized wire. The associated paper and screen set mounts in a steel frame against a felt sealing strip.

The panel is suited particularly for air conditioning and ventilating equipment where large quantities of heavy dirt and grease may be present and where the delivered air must be clean. The company is prepared to supply a machine or a hand tool to fold and apply the paper when replacement is required.

Bulletin, 8 pages. "Model WKE Dry Panel Filters" illustrates and describes the four indicated sizes.

▼ REPRINT—Identify by IEN-7983 if you write the maker ▼

HANDLING . . Monel sling chain made of ¼ to 1¼ inch bar stock

Source: S. G. TAYLOR CHAIN CO.
Box 509-A, Hammond, Ind.

End links, rings, hooks as required

Nine stock sizes provide straight line and capacity from 1,100 to 20,000 lb. in the company's new line of Pickling Chain. Material is made of ¼ to 1¼ in. bar stock, has inky nonwetting surface and weighs about ⅝ lb. per foot. Largest chain is 1¼ in. bar stock, has 4 in. links and weighs about 2½ lb. per foot. The chain is suited also for steel handling, welding and other applications. Length is to specification.

▼ REPRINT—Identify by IEN-7984 if you write the maker ▼

VENTILATING . . Circulating fan rates 13,600 to 21,400 cfm., 27 inches

Source: ROTO-BEAM
1751-57 N. Keeler Ave., Chicago 39, Ill.

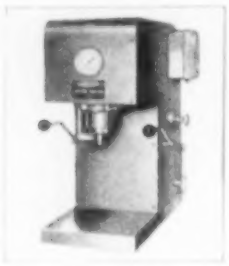
Model 130 [illegible]

The fan [illegible]

▼ REPRINT—Identify by IEN-7985 if you write the maker ▼

PRESS . . Self-contained hydraulic, 1 and 2 ton ratings, has 6 in. stroke

Source: HANNIFIN CORP.
1108 S. Kilbourn Ave., Chicago 24, Ill.



Model F-10 and **Model F-20** [illegible] Stroke is 6 in. [illegible] Height is 28 inches. [illegible]

All Makers of Items and Its Other Products Are Listed in EQUIPMENT REGISTER—Descriptions—Ratings—See Page 10

▼ REPRINT—Identify by IEN-7986 if you write the maker ▼

New!

Useful technical data on B&W Electric-Resistance-Welded BOILER TUBES

FOR WATER-TUBE AND FIRE-TUBE BOILERS

SEND FOR BULLETIN TB-331

THE BABCOCK & WILCOX TUBE CO.

General Offices: Beaver Falls, Pa.
Plants: Beaver Falls, Pa. and Alliance, O.

B&W SEAMLESS and WELDED TUBES

TA-1572 C

▼ REPRINT—Identify by IEN-7987 if you write the maker ▼

The ONLY plastic shelf support with the heart of steel

Simmons Spring-Lock • QUICK-LOCK • FOTO-LOCK

▼ REPRINT—Identify by IEN-7988 if you write the maker ▼

FOR VENTILATION, FUME & DUST CONTROL

FLEXAUST

SPIRAL-REINFORCED HOSE LIGHT, STRONG AND VERY FLEXIBLE

Flexaust is of proven suitability for a wide variety of uses and presents uses in ventilating, fume and dust control.

EXTREMELY EASY TO INSTALL—EFFICIENT AND ECONOMICAL IN USE

SIZES ½" to 24" dia.

Various Flexaust types, accessories, and other hose types also available.

FLEXLEX — Semi-rigid and collapsible hose

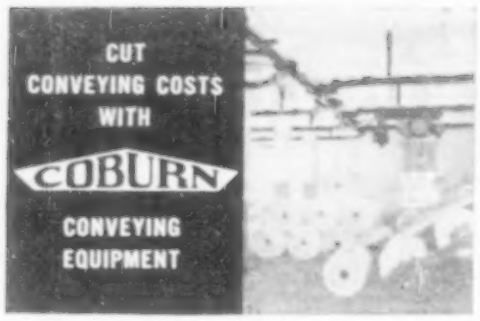
PORTOVENT — Ring-reinforced collapsible hose

Write for full descriptive data and prices

AMERICAN VENTILATING HOSE CO.

Dept. IE-2, 15 Park Row, New York 7, N. Y.
Plant: Amesbury, Mass.

IEN-7889



COBURN PRODUCTS

IEN-7890

THE PERSONAL LAMP for LONG-PERIOD SERVICE

at Low Cost!

EDISON

ELECTRIC CAP LAMPS

Bright, steady light for over 10 hours per charge . . . both hands free . . . explosionproof construction . . . dependable Edison battery . . . years of useful life!

Wherever safe, effective, portable light is required—plus long service period, great operating economy, and the free use of both hands—the Edison Electric Cap Lamp delivers outstanding performance on the job!

Powered by the exclusive Edison nickel-iron-alkaline battery that does not destroy itself in order to function, and with lightweight headpiece producing a brilliant "spot" in wide angled spread of light, this remarkable cap lamp is rechargeable with an inexpensive charger, operating on 110 volt A.C., and has a useful life measured in years. More than 100,000 Edison Electric Cap Lamps are in daily service throughout the world. Hand or floodlight models are also available. Let us consult on your prospective applications, and arrange an actual demonstration.

MINE SAFETY APPLIANCES COMPANY
Braddock, Thomas and Meade Streets • Pittsburgh 6, Pa.
At Your Service: 54 BRANCH OFFICES IN THE UNITED STATES AND CANADA

IEN-7892

DRIVE . . Variable speed dc. motor, ac. input, electronic control, 1/20 hp.

Source: GERALD R. HELLER CO.
1126 Ridgely St., Baltimore 10, Md.

IEN-7893

WINDING . . Wire coil bobbins, plastic coated core, fibre flanges

Source: PRECISION PAPER TUBE CO.
2001 W. Charleston St., Chicago 47, Ill.

IEN-7894

CALCULATING . . Slide rule to estimate costs on company's press

Source: WALES-STRIPPIT CORP.
261 Payne Ave., North Tonawanda, N. Y.

IEN-7895

HANDLING . . Sanitary container, aluminum or stainless, caster dolly

Source: GLENGARRY PROCESS INC.
66-72 Shore Lane, Bay Shore, N. Y.

Incredient Container

The container

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER Descriptions Ratings See Page 39

IEN-7896

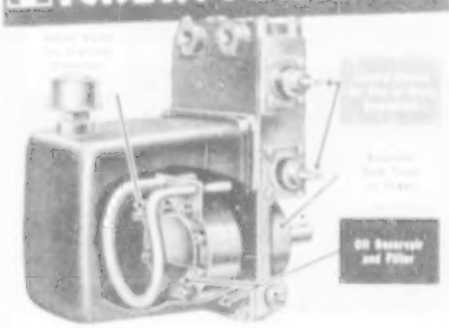
New Starrett

DIAL INDICATORS

Starrett

IEN-7897

VICKERS Hydraulic POWER PACK



The Power Pack offers designers and manufacturers a proven and dependable source of hydraulic power in a single compact "package". Hydraulic balance, automatically controlled operating characteristics, and built-in standard production are among the many advantages that make the Vickers Power Pack an outstanding hydraulic equipment value. Saves labor and reduces, land on agricultural implements, machine tools, and industrial equipment.

VICKERS Incorporated • Division of the Eaton Group
1378 OAKMAN BLVD., DETROIT 32, MICH.

Write for BULLETIN 46-48

IEN-7898

The UNBRAKO Knurled Socket Head Cap Screw

Are the same type of the UNBRAKO Catalog of Socket Screw Products

Knurling of Socket Screws originated with UNBRAKO in 1934.

SOCKET **UNBRAKO** SCREWS

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 14, PENNSYLVANIA

REPRINT—Identify by IEN - 7999 if you write the maker

JENKINS SWINGTITE

Exclusive NEW Design assures smooth action, positive closure and longer life

For use where valve action must be instantaneous

See the exclusive rolling disc (A) and the guide stock (B) cast in the body of this Fast-Action Bronze Gate. As valve opens or closes (with a quarter turn of the malleable iron lever), guide rims of discs roll freely over tracks, distributing wear evenly, dislodging foreign matter, polishing seating surfaces. SEND for folder No. 196, Jenkins Bros., 100 Park Ave., New York 17, or Jenkins Bros., Ltd., Montreal.

Sold by leading Industrial Distributors

LOOK FOR THIS DIAMOND MARK

JENKINS VALVES

REPRINT—Identify by IEN - 8000 if you write the maker

The Gleaming White Shelves of the Shelvador*

*Shelvador Refrigerator by Crosley

are made from

BAKELITE Styrene Plastics

Lasting whiteness . . . sharp, clean lines . . . low cost . . . here are three good reasons why Crosley uses BAKELITE Styrene Plastics for the three shelves of its famous "Shelvador" refrigerators.

These versatile, economical molded parts fit the specifications for each application. Such as "T". They are resistant to water, caustics, even strong acids. They can be molded on standard equipment in complicated shapes and fine detail. They are dimensionally stable, mechanically strong, light in weight.

BAKELITE Styrene Plastics come in all colors. And whether in lustrous white as our cover shows . . . whether in transparent, translucent, opaque or crystal colors (see, they give amazing beauty . . . superior performance.

BAKELITE Styrene Plastics have a long history of successful service in such diverse fields as home-ware, wall tile, packaging, closures, toys, and displays. Discuss how they can help you better your products . . . either new, old, or contemplated. Bakelite Division engineers will be glad to provide the technical assistance on your specific application. Write Dept. AL-14.

Molded Bakelite Plastics are Mildew Resistant

Bakelite Styrene PLASTICS

BAKELITE DIVISION

BAKELITE DIVISION
Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

REPRINT—Identify by IEN - 8002 if you write the maker

CRANE . . Mobile assembly rates 25 ton at 10 ft. on outriggers

Source: THEW SHOVEL CO.
4221 E. 28th St., Lorain, Ohio

Model MC-501 and MC-501W are two new assemblies of one 25-ton crane that can be interchanged for use as a shovel, crane, dragline or low-boy. The difference between the two is the width of pneumatic-tired carrier at 102 and 118 in. Both the rear wheels and pneumatics, on the wider one, to take an additional front driving axle. Normal design applies a 220-hp gasoline engine to drive the two interconnected rear axles and an assisted steering at the front one. There are 10 speeds forward and 2 in reverse.

A separate gasoline engine is mounted on the crane turntable to operate the hoist, boom elevation and swing movements. It drives the hoist with a Twin-Disc hydraulic coupling and a pole-type disengaging clutch. The coupling cushions the drive, permits hoisting at high or very low speed by throttle control at the engine. The throttle also controls lowering. A brake is provided for added holding. The disengaging clutch permits stopping all of the equipment on the turntable for observation without having to stop the engine.

The boom is standard in two pin-connected 15-ft. sections. One mounts three main sheaves with auxiliary deflector sheaves to reeve six parts of hoist line without using a top block. Intermediate boom sections can be added for total length to 100 feet. Also 15 and 30-ft. tip extensions are available for overall length to 130 feet. The machine takes shovel booms measuring 19 or 21 feet. Each includes a 3-yd. dipper on a 17-ft. stick. Standard equipment for the crane includes a boom-lowering deflector, hook block, swing brake, cab, boom stops. Source furnishes for an Sport boom hoist line.

REPRINT—Identify by IEN - 8003 if you write the maker

PRESS . . Open back inclinable, 35 ton, 6 in. stroke, 10 in. die space

Source: FEDERAL PRESS CO.
512 Division St., Elkhart, Ind.

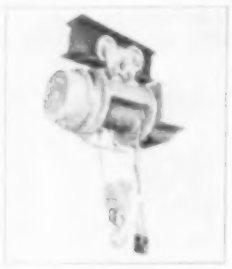
No. 11 is a new inclinable press in the company's line that features long stroke, die space and throat depth for specific purposes. The stroke is standard at 6 in., can be specified for any amount between 1 and 12 inches. Frame extension for added die space or shut height can be provided from 1 to 10 in. over the standard initial 10 inches. Throat depth is 11½ in. here.

The assembly includes a non-repeat clutch, knockout bracket, safety stamp, removable ball seat. The rotating shafts are mounted in Timken bearings. A cam-operated metering device is provided. Bed area is 24 in. by 28 in. here.

REPRINT—Identify by IEN - 8004 if you write the maker

HOIST . . Motor driven drum design rates ½ to 5 ton, standard lift 20 ft.

Source: OHIO ELECTRIC MFG. CO.
5902 Maurice Ave., Cleveland 4, Ohio



Manufacture and sale of the Cleveland-made hoist, formerly managed by Lodge, Hoist and Crane, has been taken over by Ohio Electric. Some standard specifications are: 1/2 ton, 20 ft. lift, standard 20 to 30 ft. for special, 1 ton, 20 ft. lift, standard 20 to 30 ft. for special, 2 ton, 20 ft. lift, standard 20 to 30 ft. for special, 3 ton, 20 ft. lift, standard 20 to 30 ft. for special, 5 ton, 20 ft. lift, standard 20 to 30 ft. for special. Lift speed is 10 ft. per min. All use the same drum length, 11 inches, about 20 inches between centers. Drum diameter 13 inches. Drum flange is 16 inches. Weight with hoist is 1,000 pounds.

Three main sections of the unit are: gear housing at one end, the motor section with the motor, which the drum surrounds, and the adjustable cam switch at the opposite end. The motor has a shaft extension which is inside the gearing at the other end of the motor shaft. The gearing is of the Worm and Helical. The gearing is mounted in a pedestal. Three cables are a pedestal. The pedestal mounts on a pedestal. Three cables are a pedestal. The pedestal mounts.

Bulletin 5 pages. Lodge Hoist and Crane products stocked, sold and serviced by Ohio Electric in other specifications.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 10

REPRINT—Identify by IEN - 8005 if you write the maker

KUSHION-TORK

WHAT IT WILL DO FOR YOU

The Cushion Torque of Kanti-Lever Couplings absorbs the hammer blows of sudden or reversing loads and dampens the horizontal and radial vibration that cause wear, fatigue and sometimes failure of Motors, Speed Reducers, Ball Bearings, and productive machinery. No other coupling is like the Kanti-Lever. It has a circular series of laminated Cantilevers of 200,000 lb. steel, operating in slots, the tapered sides of which automatically stiffen the Cantilevers under increased overloads. Special end play up to four inches is possible without end thrust. The outer periphery of the Kanti-Lever is available as a brake drum for quick-stopping or reversing machinery.
Send for Bulletin No. 28-N.

Kanti-Lever Couplings

4,000,000 h. p. in Use

MFGRS. OF SECTIONAL STOCK RACKS

BROWN ENGINEERING CO.
122 NORTH 3rd ST. READING, PENNA.

REPRINT—Identify by IEN - 8006 if you write the maker

Only this O.C. OCULAR COMFORT fixture checks on all points!

EASILY INSTALLED!
ECONOMICAL AND EFFICIENT!

1. Durable construction
2. One piece bottom louver
3. Greater shielding (% lengthwise, % crosswise)
4. Quickly, easily installed
5. Easily relamped
6. Low surface brightness

Distributed Exclusively through Electrical Wholesalers

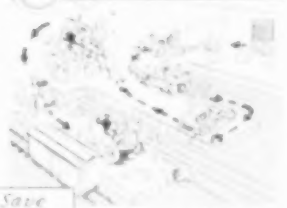
Wheeler Reflector Company, 270 Congress St., Boston 10, Mass.

Wheeler REFLECTOR COMPANY
Lighting Equipment Specialists Since 1881

REPRINT—Identify by IEN - 8007 if you write the maker

ROAD BLOCKS?

CLEAR DOCKS?



Save with a

WHITING
CROSS-OVER BRIDGE

Vacant and motor vehicles save time . . . and save the speed up materials movement from dock to dock with Whiting Cross-Over Bridges. Designed to carry general cargo, Whiting Cross-Over Bridges level and roll away.

Delivered at the dock, or roll away. Allow other trucks and equipment to pass over the bridge while loading and unloading. Bridge is carried above the dock when not in use.

Write for Bulletin MC-1400 and learn how these practical Cross-Over Bridges could be used to speed up your materials movement. Whiting Corporation, Harvey, Illinois.

BREEZITT—Identify by IEN-B008 if you write the maker

REALOCK

PROTECTION PLUS

- All fittings, hinges and locking devices are made of the same metal as the fence, assure long wearing.
- Galvanized galvanized by a special process, Realock fences are weather-resistant, even being well suited to coast cities or enjoying the maintenance. Supplied with matching bars with pressed steel arrow tissues in the East.

For complete details refer to Sweet's Catalog. For free literature consult your classified telephone directory—or write direct.

REALOCK FENCE

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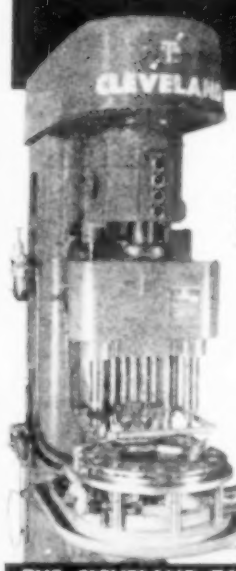
THE COLORADO FUEL & IRON CORP. Continental Oil Bldg., Denver 2, Colo.
THE CALIFORNIA WIRE CLOTH CORP. 1000-1010 Avenue Quebec, Los Angeles

BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE

BREEZITT—Identify by IEN-B009 if you write the maker

CLEVELAND lead screw tapping machines



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Send us your prints, specifications, or sample parts and let our engineers talk and suggestions for cutting costs of tapping, threading, drilling, spot facing, forming, chamfering, on equipment check with Cleveland first.

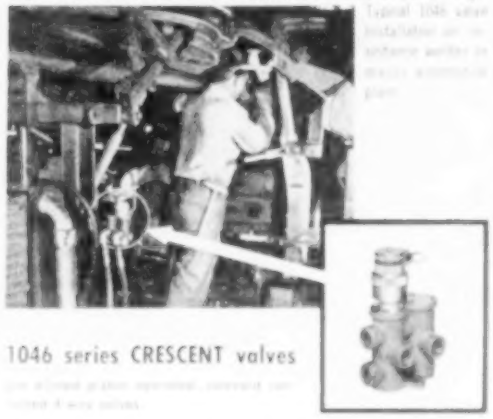
Check These Features

- Hardened and Precision Ground Lead Screw. No Hard Gears to wear. Just plug rubber on of such Precision Ball Collet.
- Exclusive super-sensitive clutch. Easily changed spindle speeds. Fully Automatic Manual Control. Fast — Accurate — Dependable. One hole or many — one stitch or more.
- Positive coolant and lubricant supply.
- More than safety for operator and machine.

Write Today for "The Production Tapping Guide" and Catalog 283-F

THE CLEVELAND TAPPING MACHINE CO.
A Subsidiary of Automatic Steel Products, Inc.
CANTON 6, OHIO

BREEZITT—Identify by IEN-B010 if you write the maker



Typical 1046 valve installation on an enclosure welder in press automatic gun.

1046 series CRESCENT valves

Low closed action operation, covered cartridge Crescent valves.

The valves are especially designed for high speed operation of up to 600 times a minute and will not overheat in application in production service at this speed. Their stems have registered over five million times without maintenance.

In some operations on resistance welders in the automotive field, on packaging machines and in many other industrial installations, Crescent valves are working along with their outstanding performance records.

1046 series valves are available in ¼", ⅜", ½" and ¾" pipe sizes. Write for literature and prices.

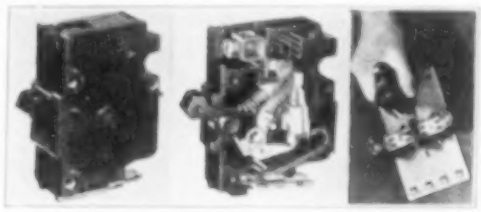
BARKSDALE

4635 SANTA FE AVENUE, LOS ANGELES 58, CALIFORNIA

BREEZITT—Identify by IEN-B011 if you write the maker

CIRCUIT BREAKER . . Unit pole design, to 30 amp. per role on 110 volt ac.

Source: FEDERAL ELECTRIC PRODUCTS CO.
55 Paris St., Newark 5, N. J.



Stab-lok trade mark new thermal magnetic circuit breaker that mounts on gauge size a knife blade or snap-on connector for visual protection combined with switching ability. The mechanism is fitted with classic Lock-Stab mounting gauge and lock blade to gauge when approximate pressure is applied. The breaker opens on "cold" overloads of a predetermined period on heavy overloads and on arcing shorts. Its operating handle returns to "off" position upon opening a trip-out. It is turned back on "on" when trouble is cleared.

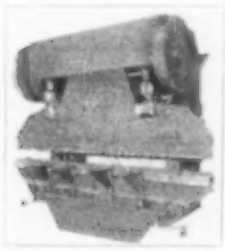
Nine designs of mechanism take units for 1 to 30 circuits in individual single-pole units, or in ganged two-pole breakers with ratings up to 30 amperes. This additional parallelable units for 40 to 50 circuits is rating to 100 amp. on the mains if the largest permitted. All are sealed normal. Mounting can be flush or surface mounted.

Bulletin CB-1000, "Realock Circuit Breaker Systems", gives complete technical specifications and descriptions of the new mechanism, shows circuit of assembled arrangements, information available, quotes actual equipment that can be replaced. Dimensions and Electrical specifications are included.

BREEZITT—Identify by IEN-B012 if you write the maker

PRESS . . Double crank machine for bending has rating of 500 ton

Source: CLEVELAND CRANE & ENGINEERING CO.
1137 E. 283rd St., Wickliffe, Ohio



Steel plate measuring 36 in. by 36 inches and 96 in. in length can be bent in this new Model M-500-12 press. The machine is designed to take a large gauge back stroke and has a shut height of 48 inches. It is equipped with standard tools for achieving the base extension shown in the illustration to bring the length down to 10 inches. These dimensions in 18 in. in front of the side columns.

Clearance between these columns is 6½ feet.

The press has a 30 h. motor and is provided with two-speed operation at 7 and 20 strokes per minute. This foot-actuated valves control the air-operated clutch. Reversing movement can be engaged in any position of the doing stroke. A slide and 20 Ton Jump of the bed cross members to support long work. The open adjustable work stops. The press is made entirely of welded steel parts is welded assembly.

BREEZITT—Identify by IEN-B013 if you write the maker

LATHE . . General purpose machine, 18 in. on centers, 11 in. over bed

Source: HARDINGE BROTHERS INC.
1416-20 College Ave., Elmira, N. Y.

Continuous support for the carriage across the width of the bed and variable-speed motor drive for the carriage feed are principal features in construction of this new Model HL lathe. It swings 11 in. over the bed, 8 in. over the carriage and 4½ in. over the cross slide. It takes 18 in. between centers with the headstock built at the end of the bed and has outer capacity for 1 in. stock size.

The spindle is mounted in precision face bearings and can be specified for any of various speed ranges between 20 and 3,000 rpm. Headstock range is in four steps (starting at 140 to 420 rpm, maximum of 1,000 to 3,100 rpm, with a 3 to 1 ratio motor. Threads are cut with a cross-rod and directed that provision for 27 changes between 11 and 100 threads per inch.

The lathe takes a bar measuring ⅝ to 1 in. and provides a no. of feed rates in the compound rest. Power feed range is ⅝ to 11½ in. per minute. The headstock mounts a 1⅝ in. spindle and provides 3¾ in. of spindle travel. It carries a No. 2 Morse taper. The machine measures 68 by 30 in. by inches. Weight is 1,250 pounds. Bulletin HL, is pages, presents illustrated descriptions and specifications.

BREEZITT—Identify by IEN-B014 if you write the maker

Users Tell Our Story Best!

163 ORDERS
FROM 3 CUSTOMERS ALONE...TOTALED
1,421,402 LBS.

SPEED PATCH
WORLD'S FINEST, FASTEST, FLOOR FIXER!

TAKES ONLY
ONE MINUTE
PER SQUARE FOOT!

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Manufacturers of a Complete Line of Rolling Maintenance Materials
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BREEZITT—Identify by IEN-B015 if you write the maker

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Today it's Roebling!
for Cold Rolled Spring Steel

If you cut down preparation time, you save money! If you cut down machine stoppages and rejects, you save still more! And you'll make *all* these savings with Roebling Cold Rolled Spring Steel because it's absolutely uniform — dimensionally and in physical properties. It is furnished untempered in bright finish . . . tempered in scaleless black, polished, polished and blued; polished and tempered.

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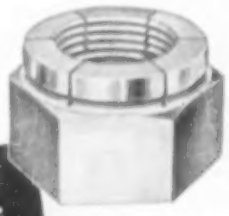

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ONE-PIECE SELF-LOCKING NUTS

The FLEXLOC is one-piece, all-metal . . . has ample tensile and long life. It is a Stop and Lock Nut that can be reused many times. Its "chuck like", resilient locking segments lock the FLEXLOC securely in any position on a threaded member. It positively "won't shake loose", yet can be removed easily with a wrench.

Write for Catalog 679, it's full of information.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 58, PENNSYLVANIA

IEN-8017

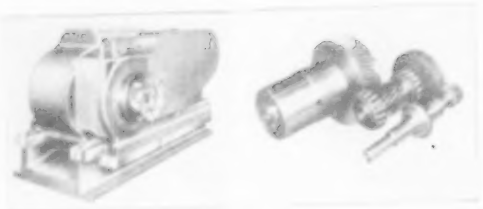
Abrasive Quality is Reflected in the Finish of Your Product

ABRASIVE

IEN-8020

MILLING . . Motor driven head builds into special production machines

Source: MOTCH & MERRYWEATHER MACHINERY CO.
712-17 Perkins Bldg., Cleveland 13, Ohio



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IEN-8018

DRAVO CORPORATION
DRAVO BUILDING, PITTSBURGH 22, PA.

IEN-8021

HEATING . . Electric furnace opens at top, rates to 2,000 deg. F.

Source: L. H. HUPPERT CO.
1414 S. Cottage Grove Ave., Chicago 27, Ill.

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PALMETTO PACKING *with a twist* TO CHOKE THE COST ON YOUR DOWNTIME

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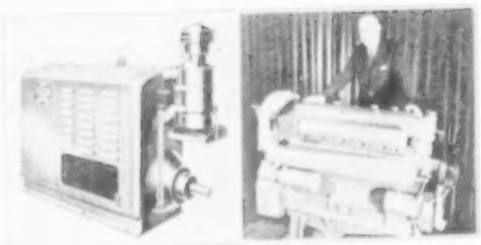
IEN-8022

ENGINE . . Two cycle diesel design, 6 cylinders, to 275 hp. at 1,800 rpm.

Source: DETROIT DIESEL ENGINE DIV.
13402 W. Outer Drive, Detroit 28, Mich.



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2 to 20 Times Faster!

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The Cowles Company
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Bends all standard, extra heavy and double extra heavy steel pipe from ⅜ in. to 2 in. inclusive, as well as standard weight pipe up to 3 in. diameter. Also handles solid mild steel bars up to 2 in. diameter.
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W-S wire, cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.
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Write for Bulletin 240-4

HYDRAULIC JACKS
These sturdy units, with either independent or integral pumps, are useful for many jobs in construction and maintenance. Capacities from 10 to 500 tons.
Write for Bulletin 710-4

Distributors Products Division
WATSON-STILLMAN
Roselle, New Jersey

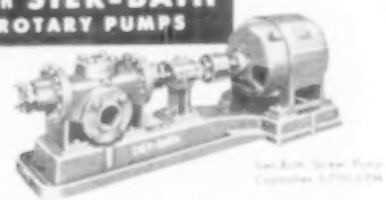
IEN-8026

IEN-8027

Slash Costs of

LOW VISCOSITY PUMPING

with SIER-BATH ROTARY PUMPS



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Eliminate need for oversize pumps, expensive mounting valves, heater need for cold-working valves.

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Capacities: 1,550 GPM

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Puts new light on "visibility"

Triplett

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IEN-8030

THERMOCOUPLE . . Immersion design for molten steel, has a 6-ft. handle

Source: BROWN INSTRUMENTS DIV
Roberts & Wayne Aves., Philadelphia 44, Pa.

Assembly lists at $220

IEN-8031

CUTTING . . Automatic machine to cut glass rod and tube, .08 to .2 in.

Source: TECHNOMATIC INC
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IEN-8032

A NEW WONDER LUBRICANT BY THE SCHATZ MANUFACTURING CO.

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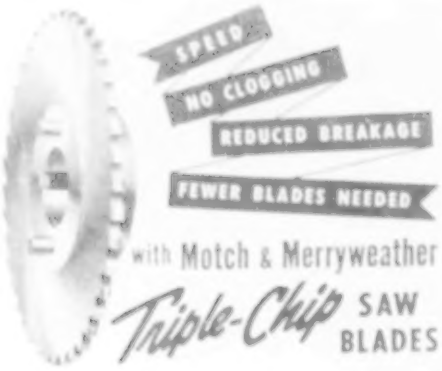
IEN-8033



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PHILADELPHIA QUARTZ COMPANY

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Heat doesn't bother the Perma-Drum. Wear? It's armor plate, abrasion resistant drum shell resists wear indefinitely.

For ANY magnetic separation problem, these Perma-Drum features stand out. *New electric permanent* (guaranteed), *as powerful as they make 'em* (magnetic strength certified), *completely automatic*, can be installed at the discharge end of chutes, hoppers or conveyor belts.

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Manufacturers of the World's Most Complete Line of Both Electric and Non-Electric Magnetic Separators

Dings

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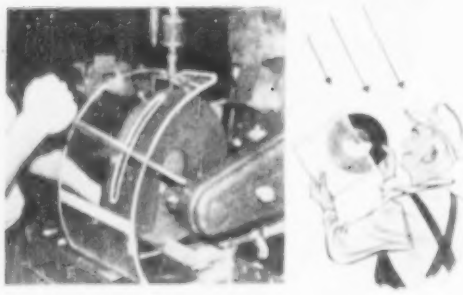
Moisture-Free

CHICAGO CUT-OFF WHEELS



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1950 AUGUST INDEX TO ALL PRODUCTS

How to find what you need:

Leaf through the issue with your current needs in mind, noting down those subjects that sound like solutions to your problems as you read the subject heading.

Next use this index to pick up page numbers referenced to additional sources on the subjects you have chosen. An asterisk (*) in the index after a number means editorial material.

Now take one subject at a time and refer to the pages you have noted. This time read the editorial descriptions and advertisements in detail. Then write the IEN numbers on which you want further information on your letter-writing form to send to us or write the manufacturer direct.

If you have trouble in finding the answer to your current problem through the subjects in this index, let us know. We can name sources of supply with the help of our sixteen-year index of all products that have appeared in IEN. Any question we cannot answer will be published in our "I Want I Had" column to invite suggestions.

A
Abrasives 8
Adhesives 10
Advertising 10
AIDS TO 21, 23, 24
Equipment 24, 63
Air 8
B
Balls, Sapphire 8
Brushes 16
BATTERIES 14*
Battery Chargers 60*
Bearing 22
Bearings 2, 4, 21, 46, 49, 52, 71
BELTS
Conveyor 3, 45, 81
Fastenings 47
Impregnation 50
Reviews 50
Bending 9*, 11, 22*, 63*, 67
Bolts 12*, 14, 32
Brass, Rods 8
Brass 40*, 41, 44, 47, 48, 50
BUILDING
Building 28, 49, 54
Repairs 50*
Buffers 9, 24, 50
Bulb 8, 44*
Bulbs, Graphite 52
Buying 44
Brass 30, 40, 49
BRASS 11
C
Cabinets 11, 22*, 34, 72
Cable, Electric 11, 12, 63*
CALCULATING 18, 63*, 69*
Calendars 58 61
Cables 30, 31, 33, 42, 44
Castings 9*, 16*, 42*, 61
CEMENTS
Glue 8
Portland 8
Centrifugers 61*
CHAIN
Conveyor 1
Fittings 18
Link 18
Transmission 11, 50
Chart 42, 54
Charts, Reviews 11, 9*
Clamps 12, 13*, 50, 51, 60
CLEANING
Rust 8, 44, 50
Steam 60
Power 60
Cylinder 3*
Floor 12, 42, 43
Materials 11, 12*, 50, 63*, 68*, 81*, 82, 93
Noise 18*
Spray 18
Vacuum 17, 40, 43
Clothes 42, 53
Compounding 49*, 50, 63*
Components 60*, 62, 63
Condensate Return Equipment 18, 54
Conduction
Electric 2, 14, 15, 16, 30, 63*, 71
CONDUIT 16
Connectors
Electric 21, 29, 30, 40, 50*, 71
Construction 1
Containers 22, 29*, 59*, 69*
CONTROLS
Electronic 40
Humidity 21
Level 12, 70
Machine Tool 44
Performance 21, 24
Pressure 10, 30, 55*, 68
Relays 21*
Speed 21*
Temperature 14*, 15, 24, 55
72, 73*, 74, 75, 76, 84
Reviews 71
Conversion Tables 8
CONVEYING
Belt 1, 7*, 24, 1, 30, 40, 45, 71, 80, 94
Chain 1
Chute 1
Flight 1
Overhead 1, 4, 11, 37, 46, 48, 49
Pneumatic 46, 48
Roller 4, 7, 94
Screw 1
Wheel 1
Cooling 2, 4, 12*, 21, 40*, 52*
Corrosion Proofing 18, 40, 49*
Coating 11, 28, 40
COUPLINGS
Flange 12*
Shaft 2, 7, 12, 14, 44, 71
Crane, Deck 23
Crane, Shop 1
CRANES 41, 46, 60*
Crane Wheels 8, 41
Crushing 4
Cutting 14
Cutting Powered 19
CUTTING
Abrasive 19*, 40*, 74*, 82*, 84
Tools 18, 44*, 52, 54*
Cylinder
Pump 7, 11, 14, 32, 35, 52, 71
D
Demagnetizing 72*
Desks 72*
Distributing 81
Drawing 17, 45, 46*, 78
Drilling 21, 71, 80, 81*
DRILLING
Rubber 12, 51, 71
Rotary 53*
Shaft 12*, 21
Machine 18*, 81
Tools 42, 45, 74
DRYERS
Components 4, 5, 7, 12
Electric 12, 16, 22, 26, 33, 40, 52, 53
71, 72, 82, 84, 86, 87*, 92
Speed Reducer 8, 13, 32, 46, 72*
Right Angle 71
Variable Speed 24, 28, 32
31, 33, 41, 79*, 84*, 89*
Dust Conditioning 79*
Dying 5, 12*, 51, 83
DUST
Control 18
Electric 18
Ventilating 79, 84, 92
Dustproofing 71
Dust Collecting 4, 13, 41, 81
16, 47, 67, 68*
Dust Control 18*
E
Electric Products 18
Elevators 82*
Engineering 82*
ENGINES 22, 48, 72*, 74, 82*
Engraving 82*
Equipment 82*
Equipments 12*
Extrusion 12
Exterminating 12
Extracting 2, 24, 32, 63*
Etching 77*
F
Fabrics 82*
FANS 11, 12*, 32, 73*, 82, 83*
Fastenings 8, 12, 17*, 28*, 36,
32, 34, 37, 43, 44, 50, 54, 71, 1
41, 44*, 72, 75, 80*, 84, 1, 4
Feeding 18, 1, 4
Feet 12, 14
Fence 12, 14
Fibre Products 12, 50
Filing 17*, 18
FILTERING
Air 8, 14, 42, 43*
Liquid 44, 47, 48
Fire Protection 34*
Floats 18
Floors 8, 9, 7*, 12, 44, 47*, 51, 71, 72
Fogging 18*
Foundries, Drinking 17*, 43*
FURNACES 11, 18, 43*
Fusing 21*, 31, 32, 47
Fuses 7, 32
G
GAGES
Commercial 43
Dimensional 17, 44*, 45, 47*, 48
Dimensional 17, 44*, 45, 47*, 48
Liquid Level 4, 14*
Pressure 18
Sockets 40, 71
Gear Cutting 7*, 12*
Gears 12, 51, 78
GENERATORS
Electric 24*, 46*, 47*
Steam 18, 24, 31
Gloves 24*, 46*
Glues 9, 17, 48, 49
Goggles 18, 17, 43
Grating, Floor 1
GRINDING
Attachments 11
Heads 4*, 7
Machines 14, 18, 50*, 71
Tools 12, 14, 17
Wheels 4*
Grommets 17
Guards, Machine 4*, 8*
GUIDES PURCHASING 17, 45
Guides, Saw Blade 1, 14
H
Handles 17, 18, 41, 48
Handling 11, 14, 41, 48
17, 24, 41, 48
Hard Facing 8*, 17
HEATS
Heat 17*, 1
Milling 17
Tapping 17
Heat Exchanging 18
Heat Treating 17
HEATING
Elements 17, 1, 7, 12, 17*
40, 48, 51
High Frequency 17*, 1, 7, 12, 17*
Power 12, 17, 1, 14, 17*
Stove 12, 28, 1, 46, 47, 51
17*, 41
Tools 17*, 51
Hardboard 17
Hard Facing 17*
Heads 24, 41, 51, 60, 67*, 68*, 83
Heating 17*
Hinges 17
HOLE
Cutting 1, 12, 14, 17*, 44
Fittings 17, 18, 41
17, 18*
Hose 17, 41
Hoists 17*, 41
Hydraulic 17*
I
Illumination 40*
Inking 41, 17*

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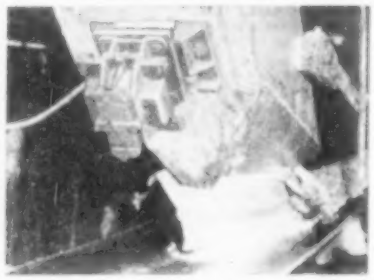

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AND SERVICES IN THIS ISSUE

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Ink
INSULATING
Electric
Heat
Thermal
Insulating Fibrous
Insulation

J

Jack
Jacks, Hydraulic
JOINTS
Rotary
Shaft

K

Knives

L

Labels
Ladders
Lamps
Lapping
LATHES
Attachments
Tools
Lighting
Light, Indicating
Lockers
Locks
LUBRICATING
Equipment
Materials
Lumber, Treated

M

Magnets
Management
MARKING
Machines
Materials
Tools
Marking
Marling
Measuring Data
Marking
Metal Form
METALS
Design, Strengthened
Expanded
Fabricated
Perforated
Thermostatic
Metal Treating
METERS
Air Velocity
Electric
Flow
Liquid
Microscopes
Milling
Mixing
Molybdenum
Motion
MOTORS
Brushless
Gasoline
Electric
Hydraulic

N

Navigation
Nibbling
Nickel Alloys
Notching
NOZZLES
Nuts

O

Oven

P

PACKAGING
Containers
Equipment
Materials
Package
Packing
Papers
Pencils
Photoelectric Equipment
PIPE
Jacketed
Fittings, Jacketed
Fittings, Standard
PLASTICS
Data
Materials
Molding Equipment
Molding
Plating
Plywood
Polishing
Powdered Metal Parts
Power Units, Hydraulic
PRESSES
Attachments
Hand
Hydraulic
Mechanical
Plastic Molding
Pneumatic
Punch
PRINTING
Equipment
Materials
Packaging
Packing
Polishing
Polishing
Punching
PUMPS
Centrifugal
Condensate
Hand
Hydraulic
Piston
Reciprocating
Rotary
Screw
Vacuum
Punching
PYROMETERS
Accessories

R

Radiator
Rails
Handling
Rack
Rectifiers, Production
Reducers, Speed
Reel
Refrigerator
REGISTER
MANUFACTURERS
Registers, Form
Relays
Resistor
Rheostat
Rivetting
Riveting
Rolling
RINGS
Metal
Retaining
Rivetting
Rivets
Rock Drilling
Rolls, Machine
Rubber Products

S

Sanding
Sapphire, Synthetic
SAWING
Blades
Machine
Machine Parts
Saws
Scale
Scaffolds
Screening
Screw Driving
Screw Machine Parts
Screws
Seaming
SEPARATING
Sewing
Shafts, Flexible
Shearing
Sheaves
Shields, Face
Shipping Containers
Shoes
SIGNALING
Skids
Sawed, Square Hole
Slip Proofing
Soldering
Soldering
Solvents
SPRAYING
Springs
Sprockets
Stamping
Stapler
Stacking
STEEL
Alloy
Straightening
Stretching
Strip
Stripping
Studs
Supplies
Surface
Switches

T

Tables, Machine
Tachometers
Tackers
Tanks
Tape
Tapping
TESTING
Electric
Equipment
Fluid
Flow
Gas
Portable Resistance
Pressure
Scribing
Vibration
Viscosity
Thermocouples
Thermometers
Thermostats
THREADING
Tinning
Tins
Tissue, Wiping
Tools, Cutting
Tools, Portable Power
Torch
Tubing
Tumbler
TRANSFORMERS
Hand
Hand Lift
Power
Power Lift
Trucks
TUBES
Flexible
Rigid
Standard
Tubing

V

VALVES
Flow
Gate
Line
Making
Operating
Power Operated
Regulating
Relief
Repair Parts
Seat
Ventilating
Vibrating
Vise

W

Washing
Washroom
Water Treating
Weighing
WELDING
Arc
Cable
Materials
Resistance
Wheelbarrows
Wheels
Winches
Winding
WIRE
Copper Alloy
Electric
Magnet
Nickel Alloy
Thermocouple
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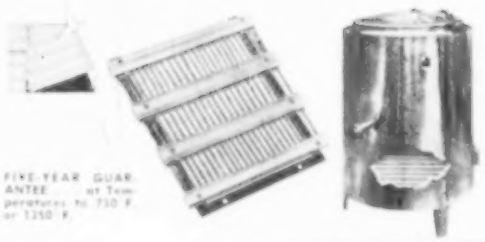

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Size (2) x (2") in multiples thereof, units, each installed—Bottom fails or vertically to give 1.5 KW to 300 KW, at low cost. Drilled for mounting.

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The Steam That Is Used For Heating, First Drives Fan in Wing Turbine Heater

Wing Turbine Driven Heaters make steam do "double duty" by utilizing the same steam for both heating and for driving the turbine. The turbine, in effect, acting as an efficient "reducing valve". Live steam is passed through the turbine, providing power for the heater fan, and the exhaust piped to the heater sections. By using the source of heat first as a source of power for the fan, power costs are cut to a minimum.

The Wing Turbine Driven Heater provides the ultimate in plant heating. Its resulting discharge outlets present a stream of healthfully heated air over, around, and under obstructions—to all parts of the plant area. Hot and cold spots are eliminated—employees work refreshed and invigorated. Bulletin TH-7 will be sent on request.

L. J. Wing Mfg. Co.
160 Vreeland Mills Road
Linden, N. J.

Wing
Revolving UNIT HEATERS

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You'll be amazed how the bright, clear light from Sylvania Birdseye Reflector Lamps helps locate and eliminate losses of costly minutes and material. These lamps direct the light exactly where it is needed . . . speed up precision work . . . improve accuracy. Made in types and wattages for every need. Ask your nearest Sylvania dealer for complete information or write direct to Sylvania Electric Products Inc., Department L-3008, 1740 Broadway, New York 19, N. Y.

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FLUORESCENT LAMPS, FIXTURES, SIGN TUBING, WIRING DEVICES, LIGHT BULBS, RADIO TUBES, TELEVISION PICTURE TUBES, ELECTRONIC PRODUCTS, ELECTRONIC TEST EQUIPMENT, PHOTOLAMPS, TELEVISION SETS

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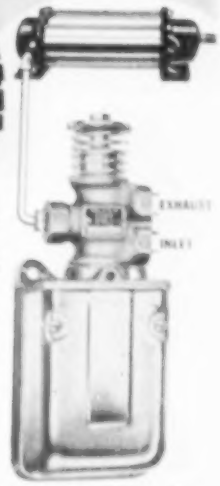
This VALVAIR SOLENOID OPERATED AIR CONTROL VALVE is Sensationally Dependable!



and its dependability is due to many quality features. Examples: the "O-U" packer, no metal seals, heavy solenoid and standard pipe sizes through valve, permitting unrestricted air flow and preventing pressure loss. Yet Valvairs cost no more.

For use with air, water or oil pressures up to 150 p.s.i., temperatures up to 150° F. 2-way, spring return. 3-way 4-way. Aluminum body, steel cover, foot, mounting, cylinder, disc, stream lines.

Sizes: 1/4", 3/8", 1/2", 3/4", 1".

* * *

Ask for Bulletin AQ

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AFFILIATE: SINCLAIR-COLLINS VALVE CO.

Rely Upon Valvair

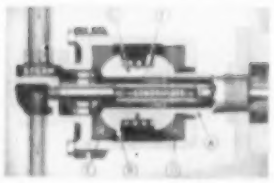
▼ DIRECT—Identify by IEN - 8046 if you write the maker ▼

This packless stuffing box is packed with surprises!

Johnson Joints were designed as replacements for stuffing boxes. Other than that there's little resemblance. In contrast they are completely packless, self-lubricating, self-adjusting, and self-aligning. Almost every day industry is finding new ways to profit from their efficiency boosting, maintenance-slashing operation—wherever steam or liquids must be admitted to rotating machine parts. Chances are good you've got an application for Johnson Joints.

WRITE FOR NEWLY PUBLISHED CATALOG

Nipple (A) is connected to roll or drum. Collar (B) is keyed to nipple at (C) but fits loosely so pressure can enter housing to act on sealing force. Seal ring (D) and bearing ring (E) are of carbon graphite—eliminate packing and oiling. Spring (F) is for initial sealing only.



The JOHNSON CORPORATION 805 Wood Street Three Rivers, Mich.

Johnson Rotary Pressure Joints

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Then STONHARD STONPACH is the answer!

This product is truly an exceptional floor repair material, a fact proved by its performance in many industrial plants throughout the country.

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Easily applied . . . your own maintenance crew can readily install it . . . STONHARD STONPACH is ideal for heavy industry, kitchens, breweries, packing plants, canneries, laundries, dairies, etc.

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IEN - 8048

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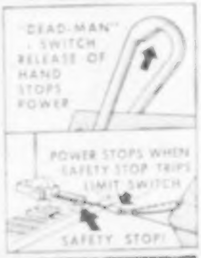
HERE'S the answer to safe, fast and efficient unloading of bulk materials from box cars — the STEARNS Magnetic Clutch Controlled Power Shovel.

A one-man shovel completely controlled by the man in the car, safer operations result for when pressure is released on "dead-man" switch, the scoop stops. Second safety feature: the scoop automatically stops when safety stop trips limit switch.

Bulletin 230-A gives full information. Write today.

Patents Pending



Stearns MAGNETIC MANUFACTURING CO.
626 S. 28th Street, Milwaukee 46, Wis.

IEN - 8049

Not Necessary to "Spot" Railroad Cars With this A-F Conveyor System!

THE ALVEY-FERGUSON COMPANY

CONVEYING EQUIPMENT
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WASHING MACHINES FOR INDUSTRY

"I WISH I HAD"

ARE WE ADDRESSING YOU CORRECTLY?

Thanks for your assistance!

IEN - 8052

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FLOW METERS

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